

EXHIBIT B

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO

Civil Action No. 05-cv-645-MSK-BNB

JOSE C. ALFARO, and
MARTHA ALFARO,

Plaintiffs,

v.

GENERAL MOTORS CORPORATION,
HONEYWELL, INC., f/k/a ALLIEDSIGNAL, INC.
DELCO ELECTRONICS CORPORATION,
DELPHI AUTO SYSTEMS, f/k/a INLAND FISHER GUIDE,
JOHN DOE, and
JOHN DOE, INC.,

Defendants.

**DEFENDANT GENERAL MOTORS CORPORATION'S
MOTION FOR SUMMARY JUDGMENT**

COMES NOW Defendant General Motors Corporation (GM) and moves this Court for summary judgment on all claims in the Complaint (DKT No. 1) pursuant to FED. R. CIV. P. 56. Because resolution of the issues raised in GM's motion for summary judgment requires a more detailed legal analysis, a separate brief addressing those legal issues is filed contemporaneously herewith.

Counsel for GM has discussed this motion with counsel for Plaintiffs. GM understands that Plaintiffs oppose this motion.

CLAIMS AND DEFENSES UPON WHICH JUDGMENT IS SOUGHT

A. GM is entitled to summary judgment on Plaintiffs' first claim for relief: Strict Liability in Tort.

1. Burden of proof and elements

Plaintiffs' claim for relief based on strict liability in tort under C.R.S. § 13-21-401¹

requires that Plaintiffs establish by a preponderance of the evidence:

- (1) GM was a manufacturer of the 2000 Chevrolet Silverado 1500 extended cab pickup truck (the Silverado);
- (2) GM was engaged in the business of selling such products;
- (3) GM sold the Silverado;
- (4) the Silverado was defective and, because of the defect, the Silverado was unreasonably dangerous to a person who might reasonably be expected to use, consume, or be affected by the Silverado;
- (5) the Silverado was defective at the time it was sold by GM or left its control;
- (6) the Silverado was expected to reach the user or consumer without substantial change in the condition in which it was sold;
- (7) the Silverado did reach the user or consumer without substantial change in the condition in which it was sold;
- (8) the Plaintiffs were persons who would reasonably be expected to use, consume or be affected by the Silverado;
- (9) the Plaintiffs had injuries; and
- (10) the defect in the Silverado was a cause of the Plaintiffs' injuries.

¹ Plaintiffs' Complaint references Colorado law. It is unclear, however, whether Colorado or Kansas law applies to Plaintiffs' claims because, although the accident occurred in Colorado, Plaintiffs are residents of Kansas. Regardless, however, of whether Colorado or Kansas law applies, GM is still entitled to summary judgment based on Plaintiffs' lack of proof regarding a specific defect.

C.J.I.-Civ. 14:1; *accord Simon v. Coppola*, 876 P.2d 10, 15 (Colo. Ct. App. 1993).² GM challenges Plaintiffs' ability to prove the fourth, fifth and tenth elements of this claim. GM does not, at this time, challenge Plaintiffs' ability to prove the other elements of their strict liability claim under the summary judgment standard.

2. Elements that cannot be proven by the Plaintiffs

Elements 4, 5 and 10: GM contends that Plaintiffs cannot demonstrate a triable issue of fact as to whether there was a defect in the subject Silverado and, because of that defect, the Silverado was unreasonably dangerous. Likewise, Plaintiffs cannot prove that a defect in the Silverado was the cause of Plaintiffs' injuries.

A. This lawsuit arises out of May 21, 2003, single-vehicle accident that occurred in the median of Interstate 70 in Kit Carson County, Colorado. *See* State of Colorado Traffic Accident Report, attached hereto as Exhibit A-1. At the time of the accident, which occurred at approximately 11:05 p.m., Plaintiff Jose C. Alfaro was the right front seat passenger in a 2000 Chevrolet Silverado 1500 extended cab pickup driven by Gorgonia Diaz. *Id.* While traveling eastbound on Interstate 70, Mr. Diaz drove the pickup off the left side of the roadway, traveling for approximately 269 feet in a depressed median between the eastbound and westbound lanes of traffic. *Id.* While traveling in the median, the Silverado then contacted a raised median crossover (a turnaround running perpendicular to the eastbound and westbound traffic lanes), traveled over the crossover, and went airborne for some distance before landing in the median. *See id.* Mr. Diaz then drove the Silverado to a rest area, and the accident was reported. *See id.*

² Similarly, under Kansas law, to establish a prima facie case of strict liability the plaintiff must produce proof of three elements: "(1) the injury resulted from a condition of the product; (2) the condition was an unreasonably dangerous one; and (3) the condition existed at the time it left the defendant's control." *Jenkins v. Amchem Prods.*, 886 P.2d 869, 886 (Kan. 1994) (citing *Mays v. Ciba-Geigy Corp.*, 661 P.2d 348 (1983)).

B. Plaintiffs filed this lawsuit on April 7, 2005, alleging that the air bag system and the right front passenger seat belt system in the Silverado were defective. *See* Compl., DKT. No. 1, at 7, ¶ 32.

C. In an apparent effort to support their allegations as to the air bag system and the right front passenger seat belt system, Plaintiffs identified William G. Broadhead (Broadhead), of Automotive Safety Research, Inc., as an expert witness. *See* Plaintiffs' Disclosure of Expert Witnesses at 1, attached hereto as Exhibit A-2; *see also* Automotive Safety Research, Inc., Preliminary Report (April 21, 2006) Prepared by William G. Broadhead (Broadhead Report), attached hereto as Exhibit A-3.

D. Plaintiffs and their expert Broadhead have failed to come forward with evidence of a specific defect in either the Silverado's air bag system or the right front passenger seat belt system. Broadhead's Report fails to identify a specific defect in either the seat belt system or the air bag system at the time the Silverado left GM's control. Instead, Plaintiffs and their expert Broadhead circularly reason that, because Mr. Alfaro was injured, something in these two components *must* have malfunctioned or was defective in some fashion. Plaintiffs' expert Broadhead simply speculates about "possibilities" in the performance of the "restraint system" at the time of the accident:

The restraint system as a whole failed to provide protection from interior impact as would be expected in a situation as this. At least two possibilities or a combination thereof exists. Either a malfunction, such as the aforementioned SDM problem, occurred resulting in a non-deployment, or by design the deployment threshold and characteristics of the crash sensor system are such that certain non-deployment collisions will be beyond the capabilities of the seatbelt to protect the front seat occupants. Both of these scenarios involve defect and unacceptably poor performance of the vehicle's restraint systems.

See Broadhead Report at 10, Exhibit A-3.

E. There is no evidence, however, of any design or manufacturing defect in the seat belt system for the right front passenger in the Silverado. The retractor for the seat belt system contains two different types of locking mechanisms, each of which may perform the lock-up function during the crash. Expert Report of Kathryn F. Anderson at 9 (May 22, 2006), attached hereto as Exhibit A-4. The first mechanism within the seat belt retractor senses vehicle decelerations and locks the seat belt. *Id.* The second mechanism within the seat belt retractor senses how quickly the seat belt webbing is being pulled out, and locks the seat belt. *Id.* An evaluation of the right front passenger seat belt system on April 27, 2006, demonstrated that both the vehicle sensitivity feature and the webbing sensitivity feature remain functional for the right front seat occupant. *Id.* at 5-6, 10; *see also* Report of Daniel Davee at 5, ¶ 1 (May 22, 2006), attached hereto as Exhibit A-5 (“The seat belt assemblies in the 2000 Chevrolet Silverado were not defectively designed, manufactured or assembled.”).

F. There is no evidence of a defect in the Silverado’s air bag system that caused Mr. Alfaro’s injuries. The fact that the air bags did not deploy in the May 21, 2003, accident was not due to any defect in the air bag system. Expert Report of John Sprague at 10 (May 22, 2006), attached hereto as Exhibit A-6. Whether there is air bag deployment is dependent upon the response of the sensing system to longitudinal (i.e. front to back) deceleration input, influenced by the angle of impact, severity of impact, structural deformation, nature of the object struck and other factors. *Id.* at 5. The characteristics of the May 21, 2003, accident – i.e., the longitudinal deceleration from impacts with the median crossover and the landing in the median of I-70 – were below the air bag deployment threshold for the Silverado, and deployment of the air bags was not commanded in the May 21, 2003, accident. *Id.* at 9.

Further, the design of the air bag system in the Silverado was reasonable and appropriate. *Id.*; *see also* Expert Report of Kathryn F. Anderson, attached hereto as Exhibit A-4, at 11.

G. Expert proof of a defect in the Silverado's seat belt system or air bag system is required for there to be strict liability. *Union Supply Co. v. Pust*, 583 P.2d 276, 286 (Colo. 1978) ("By reason of the nature of the case, the trier of fact is greatly dependent on expert evidence and industry standards in deciding whether a defect is present."); *Wilcheck v. Doonan Truck & Equip., Inc.*, 552 P.2d 938, 942 (Kan. 1976) (Regardless of the theory upon which recovery is sought for injury in a products liability case under Kansas law, "proof that a defect in the product caused the injury is a prerequisite to recovery.").

H. Yet Plaintiffs have not identified any other witnesses who would be qualified to offer opinion testimony identifying a specific defect in the Silverado's seat belt system or air bag system.

I. The fact that Plaintiffs sustained injuries in the accident, "without more, does not establish that the product was defective or unreasonably dangerous." C.J.L.-Civ. 14:7; *see also Kysor Indus. Corp. v. Frazier*, 642 P.2d 908 (Colo. 1982); *Wilcheck v. Doonan Truck & Equip. Co.*, 552 P.2d 938, 943 (Kan. 1976) ("The mere fact that a person suffered injury while using a product is insufficient in itself to satisfy the requirement of proof that a defect in the product was a proximate cause of the injury.").

J. As such, Plaintiffs cannot state a *prima facie* claim for strict liability. Plaintiffs' expert does not identify a specific defect which made the Silverado unreasonably dangerous. Moreover, an inference of a defect from Plaintiffs' injury and air bag non-deployment is impermissible. Accordingly, GM is entitled to judgment as a matter of law on Plaintiffs' claim strict liability claim.

B. GM is entitled to summary judgment on Plaintiffs' second claim for relief: Manufacturer's Liability Based on Negligence.

1. Burden of proof and elements

Plaintiffs' claim for relief based on manufacturer's negligence requires Plaintiffs to establish by a preponderance of the evidence that:

- (1) GM manufactured the Silverado;
- (2) GM was negligent by failing to exercise reasonable care to prevent the Silverado from creating an unreasonable risk of harm to the person or property of one who might reasonably be expected to use, consume or be affected by the Silverado while it was being used in the manner GM might have reasonably expected;
- (3) Plaintiffs were persons GM should reasonably have expected to use, consume or be affected by the Silverado; and
- (4) Plaintiffs had injuries that were caused by GM's negligence, while the Silverado was being used in a manner GM should reasonably have expected.

C.J.I.-Civ. 14:17; *accord Lyons v. Nesby*, 770 P.2d 1250, 1254 (Colo. 1989).³ GM challenges Plaintiffs' ability to prove the second and fourth elements of this claim. GM does not, at this time, challenge Plaintiffs' ability to prove the other elements of their claim of manufacturer's liability based on negligence under the summary judgment standard.

2. Elements that cannot be proven by the Plaintiffs

Elements 2 and 4: GM contends that Plaintiffs cannot demonstrate a triable issue of fact as to whether GM was negligent by failing to exercise reasonable care to prevent the Silverado

³ Similarly, under Kansas law, to recover for negligence, the plaintiff must prove that GM has a legal duty to produce vehicles without defects that present a foreseeable and unreasonable risk of harm, that there was a breach of that duty, that an injury resulted, and that there is a causal connection between the duty breached and the injury suffered. *South v. McCarter*, 119 P.3d 1, 20 (Kan. 2005) (citing *Schmidt v. HTG, Inc.*, 961 P.2d 677, 692 (Kan. 1998)); *Barnett-Holdgraf v. Mut. Life Ins. Co.*, 3 P.3d 89, 93 (Kan. Ct. App. 2000).

from creating an unreasonable risk of harm to Plaintiffs. Further, Plaintiffs cannot prove that any negligence caused Plaintiffs' injuries.

A. The report of Plaintiffs' expert Broadhead fails to identify a specific defect in either the seat belt system or the air bag system that caused Mr. Alfaro's injuries. *See* Broadhead Report, Exhibit A-3.

B. In contrast, GM has shown that the design, development and testing of the air bag system in the Silverado were reasonable and appropriate. *See* Expert Report of Kathryn F. Anderson, attached hereto as Exhibit A-4, at 11. The air bag system was developed through computer modeling, sled testing, and full-scale barrier testing with instrumented dummies. Expert Report of John Sprague, attached hereto as Exhibit A-6, at 6. Moreover, the components of the air bag system for the Silverado were specified, tested and validated as part of the vehicle design to ensure that proper materials and components have been chosen for the system. *Id.* The air bag system also was tested in full-scale barrier, rough road, and severe abuse tests to address not only government requirements, but also GM's internal system performance goals. *Id.*

C. This design, development, and testing of the front seat belt system in the Silverado was reasonable and appropriate. *See* Expert Report of Kathryn F. Anderson, attached hereto as Exhibit A-4, at 11; *see also* Report of Daniel Davee, attached hereto as Exhibit A-5, at 5.

D. Expert proof of a specific defect in the Silverado's seat belt system or air bag system is required for there to be manufacturer's liability based on negligence. *Union Supply Co.*, 583 P.2d at 286; *Wilcheck*, 552 P.2d at 942.

E. Plaintiffs have not identified any other witnesses who would be qualified to offer opinion testimony identifying a specific defect in the Silverado's seat belt system or air bag system.

F. The fact that Plaintiffs sustained injuries, without more, does not establish that the product was defective or unreasonably dangerous. C.J.I.-Civ. 14:7; *see also Kysor Indus. Corp.*, 642 P.2d 908; *Wilcheck*, 552 P.2d at 943.

G. As such, Plaintiffs cannot state a *prima facie* claim for manufacturer's liability based on negligence because Plaintiffs' expert does not identify a specific defect which made the Silverado unreasonably dangerous. Accordingly, GM is entitled to summary judgment on this claim.

C. GM is entitled to summary judgment on Plaintiffs' third claim for relief: Breach of Implied Warranty of Merchantability.

1. Burden of proof and elements

Plaintiffs' claim for relief based on breach of implied warranty of merchantability requires Plaintiffs to establish by a preponderance of the evidence that:

- (1) GM sold the Silverado;
- (2) the Plaintiffs are persons who were reasonably expected to use, consume or be affected by the product;
- (3) GM was a merchant with respect to the type of product involved herein;
- (4) The Silverado was not of merchantable quality at the time of sale;
- (5) This breach of warranty caused the Plaintiffs' injuries; and
- (6) Within a reasonable time after the Plaintiffs discovered or should have discovered the alleged breach of warranty, the Plaintiffs notified GM of such breach.

C.J.I.-Civ. 14:10; *accord Prutch v. Ford Motor Co.*, 618 P.2d 657, 660 (Colo. 1980)).⁴ GM challenges Plaintiffs' ability to prove the fourth and fifth elements of this claim. GM does not, at this time, challenge Plaintiffs' ability to prove the other elements of their claim for breach of implied warranty of merchantability under the summary judgment standard.

2. Elements that cannot be proven by the Plaintiffs

Elements 4 and 5: GM contends that Plaintiffs cannot demonstrate a triable issue of fact as to whether the Silverado was not of merchantable quality at the time of the sale. Additionally, Plaintiffs cannot prove that any breach of any warranty caused Plaintiffs' injuries.

A. The report of Plaintiffs' expert Broadhead fails to identify a specific defect in either the seat belt system or the air bag system of the Silverado that caused Mr. Alfaro's injuries. *See* Broadhead Report, Exhibit A-3.

B. Expert proof of a specific defect in the Silverado's seat belt system or air bag system is required for there to be liability for breach of implied warranty of merchantability. *Union Supply Co.*, 583 P.2d at 286; *Wilcheck*, 552 P.2d at 942.

C. Plaintiffs have not identified any other witnesses who would be qualified to offer opinion testimony identifying a specific defect in the Silverado's seat belt system or air bag system.

D. The fact that Plaintiffs sustained injuries, without more, does not establish that the Silverado was defective or unreasonably dangerous. C.J.I.-Civ. 14:7; *see also Kysor Indus. Corp.*, 642 P.2d 908; *Wilcheck*, 522 P.2d at 943.

⁴ Similarly, under Kansas law, to establish a breach of warranty claim, a buyer must prove (1) the ordinary purpose of the goods involved, and (2) the particular goods sold were not fit for that purpose. "Kansas case law has interpreted this to mean that the buyer must show that the goods were defective and that the defect existed at the time of sale." *Black v. Don Schmid Motor, Inc.*, 657 P.2d 517, 525 (Kan. 1983). "[C]auses of action for breach of the implied warranty of merchantability and strict tort liability are very similar in practice, if not in concept." KAN. STAT. ANN. § 84-2-314, Kan. cmt. 5 (1996).

E. As such, Plaintiffs cannot state a *prima facie* claim for breach of implied warranty of merchantability because Plaintiffs' expert does not identify a defect which made the vehicle unmerchantable. Accordingly, GM is entitled to judgment as a matter of law on that claim.

D. GM is entitled to summary judgment on its affirmative defense of statute of limitations regarding Claim 3, breach of warranty.

1. Burden of proof and elements

GM bears the burden of establishing the affirmative defense of statute of limitations. This defense has one element: that the plaintiff's action was not commenced within the three years of delivery of the vehicle. COLO. REV. STAT. § 4-2-725; *Boyd v. A.O. Smith Harvestore Prods., Inc.*, 776 P.2d 1125, 1128-29 (Colo. Ct. App. 1989).

2. The undisputed facts show that the Alfaro's breach of warranty claim is time barred.

A. The Silverado was delivered on August 21, 1999. *See* Vehicle Invoice, attached hereto as Exhibit A-7.

B. Plaintiffs filed this lawsuit on April 7, 2005, more than three years later. *See* Complaint (DKT No. 1).

C. Therefore, the undisputed facts establish that the breach of warranty claim is untimely.

CONCLUSION

The Plaintiffs' expert fails to identify a specific defect in the Silverado's seat belt or air bag system, a critical element of all three of Plaintiffs' claims. GM is therefore entitled to summary judgment on all of Plaintiffs' claims. GM is also entitled to summary judgment on its affirmative defense of statute of limitations on Plaintiffs' breach of warranty claim as it is

undisputed that Plaintiffs filed this action beyond the three year limitation period for such actions.

For the foregoing reasons, GM respectfully requests that the Court grant its Motion for Summary Judgment.

Dated this 21st day of July, 2006.

Respectfully submitted,

/s/ Michael F. Smith
ELDRIDGE COOPER STEICHEN
& LEACH, PLLC
MARY QUINN-COOPER (#11966)
mcooper@ecslok.com
MICHAEL F. SMITH (#14815)
msmith@ecslok.com
HAROLD C. ZUCKERMAN (#11189)
hzuckerman@ecslok.com
P. O. BOX 3566
110 W. 7th Street, Ste 200
TULSA, OKLAHOMA 74101-3566

CHARLES L. CASTEEL
Charles.Casteel@dgslaw.com
DAVIS GRAHAM & STUBBS LLP
SUITE 500, 1550 SEVENTEENTH STREET
DENVER, CO 80202
(303) 892-9400 telephone
(303) 893-1379 facsimile
Attorneys for General Motors Corporation

CERTIFICATE OF SERVICE

I hereby certify that on the 21st day of July, 2006, I electronically filed the foregoing **DEFENDANT GENERAL MOTORS CORPORATION'S MOTION FOR SUMMARY JUDGMENT** with the Clerk of Court using Lexis Nexis for filing. Based on the records currently on file, the Clerk of Court will transmit a Notice of Electronic filing to the following ECF registrants:

Stanley Walter
stan@stanwalterlaw.com

Mary A. Wells
mwells@warllc.com

Peter F. Jones
JonesP@HallEvans.com

and I certify that I have mailed the documents to the following non CM/ECF participants:

Mr. Don C. Staab
1301 Oak Street
Hays, Kansas 67601

Attorney for Plaintiff Martha Alfaro

J. Kenneth Wainwright, Jr.
Barry B. Sutton
Harvey Kruse PC
1050 Wilshire Drive
Troy, Michigan 48084-1526


Attorneys for Delco Electronic, LLC and
Delphi Automotive Systems, LLC

/s/ Michael F. Smith

MAIL TO: State of Colorado
Motor Vehicle Division ID# 327EXDRMQR
Traffic Records
Denver, CO 80261-0016 SHEET 1 OF 2

☐ UNDER \$1,000 ACCIDENT

SHEET 1 OF 2

2	DATE OF ACCIDENT 05/21/2003		CITY	AGENCY Colorado State Patrol	COUNTY 26 Kit Carson
	TIME 2305	OFFICER NUMBER 7180	OFFICER NAME Preston, Kirk	SIGNATURE 	DETAIL 1A
27	NUMBER KILLED 0	NUMBER INJURED 2	LOCATION ROUTE, STREET, ROAD Colo 70		
	DATE OF REPORT 05/23/2003	LONGITUDE AT: Milepost 436			
	INVESTIGATED @ SCENE 1	TOTAL VEHICLES 1A	DISTRICT NUMBER	PUBLIC PROPERTY EMPLOYEE	PHOTOS TAKEN
					RAILROAD CROSSING
					CONST. ZONE
					ON BRIDGE
					INCOMPLETE REPORT

VEH #	BICYCLE	PEDESTRIAN #	PARKED
Diaz	Gorgonia	S	
STREET ADDRESS 814 Washington		RES. PHONE None	
CITY Goodland	STATE KS	ZIP 67735	BUS. PHONE None
DRIVERS LIC. NUMBER GD382510946		STATE	SEX DOB M 11/07/1983
PRIMARY VIOLATION Careless Driving Caused Injury			
VIOLATION CODE 42-4-1402		CITATION NUMBER 1924120	COMMON CODE 139
YEAR 2000	MAKE Chevrolet	MODEL Z71	BODY TYPE Pickup
LIC PLATE NO. UFO344	STATE KS	COLOR Gray	
VEHICLE ID NO. 1GCEK19T1YE143024			
VEHICLE OWNER LAST NAME Diaz		FIRST Jose	MI
ADDRESS 814 Washington Goodland, KS 67735		CITY	STATE ZIP
TOWED DUE TO DAMAGE <input checked="" type="checkbox"/> TO: Burlington CO.			
BY: Joes Garage			
1 = SLIGHT; 2 = MODERATE; 3 = EXTREME			
INSURANCE CO. Shelter		EXP. DATE 06/27/2003	
POLICY NO. 15-1-4807942-4			
OWNER DAMAGED PROP. LAST NAME		FIRST	MI
ADDRESS		CITY	STATE ZIP
VEH #	BICYCLE	PEDESTRIAN #	PARKED
LAST NAME		FIRST	MI
STREET ADDRESS		RES. PHONE	
CITY	STATE	ZIP	BUS. PHONE
DRIVERS LIC. NUMBER		STATE	SEX DOB
PRIMARY VIOLATION			
VIOLATION CODE		CITATION NUMBER	COMMON CODE
YEAR	MAKE	MODEL	BODY TYPE
LIC PLATE NO.	STATE	COLOR	
VEHICLE ID NO.			
VEHICLE OWNER LAST NAME		FIRST	MI
ADDRESS		CITY	STATE ZIP
TOWED DUE TO DAMAGE <input type="checkbox"/> TO:			
BY:			
1 = SLIGHT; 2 = MODERATE; 3 = EXTREME			
INSURANCE CO.		EXP. DATE	
POLICY NO.			
OWNER DAMAGED PROP. LAST NAME		FIRST	MI
ADDRESS		CITY	STATE ZIP

[illegible]

abbies'

Alina

DR 447-NARRATIVE / DRAWING

10# 327EXDRMQR

SHEET 2 OF 2

DESCRIBE ACCIDENT

Vehicle#1 was eastbound on Colo 70. Vehicle#1 drove off the left side of the roadway into a depressed median for 269'. Vehicle#1 then struck a raised median crossover with its front undercarriage. Vehicle#1 then went airborne for 50' coming down and impacting the ground with its front. Vehicle#1 then drove to town and reported the accident.

Vehicle#1 was alrbag equipped but not deployed.

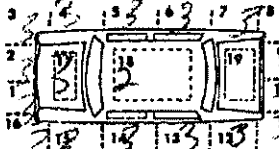
ACCIDENT DRAWING



Raised Median Crossover

#1



COLORADO STATE PATROL CASE REPORT				CONNECTING CASE NO.		CASE REPORT NO. <u>1A03-0591</u>		
<input type="checkbox"/> INCIDENT REPORT <input type="checkbox"/> CUSTODY REPORT <input type="checkbox"/> LIVESTOCK THEFT/RECOVERY <input type="checkbox"/> OFFICER ASSAULTED <input checked="" type="checkbox"/> TOW REPORT <input type="checkbox"/> AUTO THEFT/RECOVERY <input type="checkbox"/> OFFENSE REPORT <input type="checkbox"/> THEFT REPORT				UCR ENTRY REQUIRED: Yes <input type="checkbox"/> No <input type="checkbox"/> HOLD ORDER: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> <small>42-13-106. Release of impounded vehicles - penalty. Any owner, operator, or employee of any garage or service station or any appointed custodian who releases any vehicle impounded or ordered held by an officer of the Colorado state patrol without a release from an officer of the Colorado state patrol or a bona fide court order commits a class 3 misdemeanor and shall be punished as provided in section 18-1-106, C.R.S.</small>		REASON HELD (additional info in narrative) <u>50076</u> <u>1A-2</u> <u>1PH36</u> <u>1UGH CRASH</u>		
DATE <u>5-21-03</u>		TIME <u>2350</u>		<input type="checkbox"/> AM <input checked="" type="checkbox"/> PM		LOCATION <u>COLO 70 1 W BURLINGTON</u>		
CODES DR=DRIVER; RO=REGISTERED OWNER; V=VICTIM; W=WITNESS; LP=LAST PERSON IN POSSESSION; RP=REPORTING PARTY S=SUSPECT								
SUBJECT 1	CODE	LAST NAME	FIRST	MI	DOB	SOCIAL SECURITY NO.		
	<u>DR</u>	<u>DINEZ</u>	<u>GORGONTO</u>	<u>J</u>	<u>110182</u>			
	ADDRESS <u>814 W WILSON CT</u>		CITY <u>GOODLAND</u>	STATE <u>KS</u>	ZIP CODE <u>67735</u>	PLACE OF BIRTH (CITY, STATE) <u>MEXICO</u>		
	DRIVER'S LICENSE NUMBER AND TYPE <u>GD3823 10946</u>		STATE <u>MO</u>	RACE <u>W</u>	SEX <u>M</u>	WGT. <u>508</u>	HGT. <u>160</u>	
EMPLOYER NAME		EMPLOYER ADDRESS		OCCUPATION		BUSINESS TELEPHONE		
SUBJECT 2	CODE	LAST NAME	FIRST	MI	DOB	SOCIAL SECURITY NO.		
	ADDRESS		CITY		STATE		ZIP CODE	
	DRIVER'S LICENSE NUMBER AND TYPE		STATE	RACE	SEX	WGT.	HGT.	HAIR
	EMPLOYER NAME		EMPLOYER ADDRESS		OCCUPATION		BUSINESS TELEPHONE	
VEHICLE INFORMATION	LICENSE PLATE/TYPE <u>J DEAZ U10344</u>		STATE <u>KS</u>		VEHICLE YEAR <u>2000</u>		MAKE <u>CHEV</u>	
	COLOR (TOP/BOTTOM) <u>BEIGE</u>		VIN <u>1GCEK19T1X5142224</u>		TYPE OR BODY STYLE <u>2 71 3PR</u>			
	REASON TOWED: <input checked="" type="checkbox"/> CRASH <input type="checkbox"/> ARREST <input type="checkbox"/> ABANDONED HAZARD		INVENTORY OF VEHICLE TRUNK EXAMINED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
	CONDITION OF VEHICLE: 1-MINOR 2-MODERATE 3-EXTREME <u>3</u>		LIST OF PROPERTY <u>5455</u>					
			VALUE OF RECOVERED STEAL \$ OWNER NOTIFIED <input type="checkbox"/> MAIL <input type="checkbox"/> PERSON <input type="checkbox"/> OTHER:					
	TOW COMPANY NAME <u>JOES GARAGE</u>		ADDRESS <u>COLO AVE BURLINGTON, CO</u>		PHONE			
	SIGNATURE OF TOW OPERATOR <u>[Signature]</u>		VEHICLE RELEASED TO:		DATE/TIME		RELEASED BY	
	STATUTE NUMBER <u>117-1110-2</u>		CHARGE <u>CARELESS CAUSED INJURY</u>		WARRANT YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		SUMMONS/WARRANT NUMBER <u>1924120</u>	
	NARRATIVE <u>VEHICLE TAPACI MEDIAN CRASHED MIRRORE IMPACT GRASS</u> <u>HEAVY DAMAGE</u> <u>MODERATE INJURY TO ONE</u> <u>MINOR INJURY TO DRIVER</u> <u>CHILD SEAT NO INJURY</u>							
	I AFFIRM THAT THIS INFORMATION IS CORRECT AND TRUE: SIGNATURE OF REPORTING PARTY <u>[Signature]</u>						ROADSIDE AUTHORIZATION I authorize and accept responsibility for the above-captioned vehicle to remain where now parked, and understand that this vehicle MUST be moved within 24 hours, or it may be towed at the owner's expense.	
DATE OF REPORT <u>5-21-03</u>	SIGNATURE OF OFFICER <u>[Signature]</u>		NUMBER <u>5162</u>	REVIEWED BY (INITIALS)		OPERATOR		

WHITE-CASE FILE GREEN-DATA ENTRY FILE YELLOW-JAIL PINK-TOW OPERATOR GOLDENROD-VEHICLE OWNER/OPERATOR

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO

Civil Action No.: 05-CV-645-MSK-BNB

JOSE ALFARO, and
MARTHA ALFARO,

Plaintiff,

v.

GENERAL MOTORS CORPORATION,
HONEYWELL, INC. f/k/a ALLIEDSIGNAL, INC.
DELCO ELECTRONICS CORPORATION,
DELPHI AUTO SYSTEMS, f/k/a/ INLAND FISHER GUIDE
JOHN DOE, and JOHN DOE, INC.

Defendants.

PLAINTIFFS' DISCLOSURE OF EXPERT WITNESSES

COME NOW the Plaintiffs, José and Martha Alfaro, by and through their lawyers,
Stanley J. Walter and Don Staab, and disclose the following expert witnesses:

Name	Address & Phone No.	Description of Testimony
Automotive Safety Research, Inc. William G. Broadhead	5350 Hollister Avenue, Suite D Santa Barbara, CA 93111-2326 805-964-1110	Mr. Broadhead has 29 years experience in the field of occupant restraint systems, centered around design, analysis and investigation of vehicle restraint systems.
Injury Analysis Dennis F. Shanahan, M.D., M.P.H.	2839 Via Conquistador Carlsbad, CA 92009-3020 760-931-5430	Dr. Shanahan has extensive experience in the fields of injury mechanisms, crash investigation, injury reconstruction, restraint performance, crash dynamics and occupant kinematics.
Ponderosa Associates Limited	130 Miners Drive	Mr. Feiereisen's experience and

EXHIBIT

tabbles
A-2

Thomas Feiereisen, M.S., P.E.	Lafayette, CO 80026-2951 303-666-8112	expertise are in the areas of motor vehicle accident investigation/reconstruction, automobile airbag anomalies.
Rehabilitation Consulting Services, Inc. Patrick Renfro,	1777 S. Bellaire St., Suite 321 Denver, CO 80222 720-524-0256	Mr. Renfro is an expert in vocational rehabilitation counseling and medical rehabilitation consulting.

Enclosed are reports submitted by each of the above referenced experts.

Done this 24th day of April, 2006.

s/ Stanley J. Walter
Stanley J. Walter
518 17th Street, Suite 1044
Denver, CO 80202-4119
303-698-1957 phone
303-698-1938 fax

Don C. Staab
1301 Oak
Hays, KS 67601-3659
785-628-8517 phone
785-628-2243 fax

CERTIFICATE OF SERVICE

I certify that on this 24th day of April, 2006, a true and correct copy of the above and foregoing Plaintiffs' Disclosure of Expert Witnesses was sent, via email and U.S. Mail, postage prepaid, to:

Charles Casteel
Davis, Graham & Stubbs
1550 17th Street, Suite 500
Denver, CO 80202

Peter Jones
Hall & Evans
1125 17th Street, Suite 600
Denver, CO 80202

Mary Wells
David Mayhan
Wells, Anderson & Race
1700 Broadway, Suite 1020
Denver, CO 80290-1705

Michael Smith
Eldridge, Cooper, Steichen & Leach
P.O. Box 3566
Tulsa, OK 74101-3566
110 W. 7th Street, Suite 200
Tulsa, OK 74119

**AUTOMOTIVE
SAFETY
RESEARCH, INC.**

5350 HOLLISTER AVENUE, SUITE D
SANTA BARBARA, CA 93111-2326
TELEPHONE (805) 964-1110
FAX (805) 964-5442
www.asr-engineering.com

REPORT

Alfaro v. General Motors. et al.

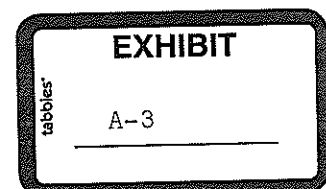
Prepared by:

William G. Broadhead
Automotive Safety Research, Inc.
5350 Hollister Avenue, Suite D
Santa Barbara, CA 93111-2326

April 21, 2006

Prepared for:

Stanley J. Walter, Esq.
Law Office of Stanley J. Walter
518 17th Street, Suite 1044
Denver, CO 80202



**AUTOMOTIVE
SAFETY
RESEARCH, INC.**

5350 HOLLISTER AVENUE, SUITE D
SANTA BARBARA, CA 93111-2326
TELEPHONE (805) 964-1110
FAX (805) 964-5442
www.asr-engineering.com

PRELIMINARY REPORT

Alfaro v. General Motors. et al.

Prepared by:

William G. Broadhead
Automotive Safety Research, Inc.
5350 Hollister Avenue, Suite D
Santa Barbara, CA 93111-2326

April 21, 2006

Prepared for:

Stanley J. Walter, Esq.
Law Office of Stanley J. Walter
518 17th Street, Suite 1044
Denver, CO 80202

I. Qualifications

I am a mechanical engineer with 29 years of occupant restraint system experience. I have personally conducted more than 100 full scale vehicle crash tests and sled tests, and I have participated in more than 700 traffic accident reconstructions. My career has centered around the design, analysis and investigation of vehicle restraint systems. More specifically, I was a Program Manager for National Highway Traffic Safety Administration (NHTSA) contracts to design, build, install, and test restraint systems. Please refer to my attached curriculum vitae for additional information regarding my experience and qualifications (Attachment "A"). A list of my trial and deposition testimony over the last four years is also included (Attachment "B"). I have published papers in the field of vehicle occupant restraint systems. These papers are listed in my curriculum vitae attached hereto. I have followed scientifically accepted methodology in the investigation and analysis of this unfortunate incident. I have read technical papers relevant to issues in this case. My hourly rate for case work and testimony is \$350 per hour.

This report is based on material reviewed to date. In the event further material becomes available an updated report may be warranted. Additionally, I may rely on documents and exhibits produced by the Plaintiff and Defense. I expect to review and consider depositions, reports and testimony of other experts as they become available.

II. Materials reviewed and investigations conducted to date:

1. State of Colorado Traffic Accident Report, 05/21/03;
2. Subject 2000 Chevrolet 1500 Silverado inspection by William Broadhead, with video and photographs;
3. Medical Records of Jose Alfaro, from St. Anthony Hospital, 05/22/03;
4. Photographs of Jose Alfaro;
5. Transcription of interview of Jose Alfaro by GM representative, 03/07/04;

6. Depositions:
 - a. Jose Alfaro, Volume 1 and 2
 - b. Manuel Salas
 - c. Gorgonia Diaz
 - d. Kirk L. Preston
 - e. Robert Madyag, M.D.
 - f. Martha Alfaro
7. NHTSA Recall #02V178000 - Component: Airbags frontal sensor/control module. Vehicles affected: 2000 Chevrolet Silverado, Chevrolet Suburban, Chevrolet Tahoe, GMC Sierra, GMC Yukon, and GMC Yukon XL;
8. Photographs of subject vehicle and Accident Site from Ponderosa & Associates;
9. Vetronix Crash Data Retrieval Report from subject vehicle, completed by General Motors on 02/05/04.

III. Introduction

The subject accident took place May 21, 2003 on I-70 near Burlington, Colorado. It was a single vehicle collision involving a 2000 Chevrolet 1500 Silverado driven by Gorgonia Diaz. Other occupants included Jose Alfaro sitting in the right front passenger position and Jacqueline Diaz, 23 months, in a child restraint system in the rear center position of the extended cab. According to the Colorado Traffic Accident Report, the vehicle deviated to the left from its eastbound lane of I-70 and onto the center median. It then struck a raised median crossover, became airborne and impacted the ground with the front and undercarriage of the vehicle.



Photograph #1

Physical evidence indicates that Mr. Diaz and Mr. Alfaro were both using the available seatbelts at the time of the incident. A download of the vehicle's Sensing Diagnostic Module (SDM) also confirms that Mr. Diaz was wearing his seatbelt. Model year 2000 Chevrolet pickups were not equipped with the ability to record seat belt usage for right front occupants. Jose Alfaro's seat belt did show evidence of loading during the subject event and the hospital report related that "He had an abrasion on the shoulder on the right side consistent with a seat belt injury." Despite the use of their seat belts, both Mr. Diaz and Mr. Alfaro sustained significant injuries due to impact with portions of the vehicle's interior. Unfortunately, neither of the front seat airbags deployed in this accident.

IV. Injuries

Mr. Diaz is reported to have been approximately 5'2" to 5'3" in height and about 110 to 115 pounds. He apparently suffered a broken nose, injury to his teeth and other unspecified injuries due to the impact.

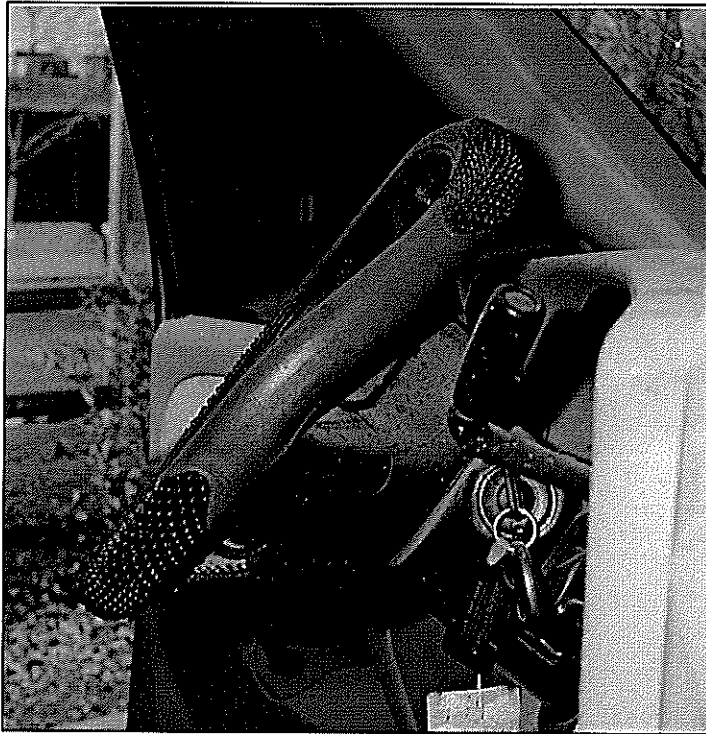
Mr. Alfaro was 70-years-old and 6'1", 160 pounds at the time of the accident. His injuries included blunt force trauma to the mid-facial area, mostly on the left side, including fractures, lacerations and abrasions and loss of vision in his left eye. He also sustained injuries to each of his shoulders. This included dislocation of his left shoulder with associated neuropathy. The contusions/abrasions and/or laceration to his right anterior shoulder was described by medical personnel as being consistent with injury caused by the seatbelt. Other injuries to Mr. Alfaro included left rib fractures and injury to his right knee.

Jacqueline Diaz, the child, was reported not injured.

V. Vehicle Inspection

The subject vehicle was inspected on November 16, 2004 in Littleton, CO. The vehicle sustained damage consistent with a ground impact in which significant longitudinal as well as vertical forces were imparted.

The interior of the vehicle revealed evidence of severe occupant impacts. The steering wheel was deformed forward at the upper part of the wheel rim consistent with driver impact. See photograph #2. The windshield on the driver side sustained three fracture patterns consistent with direct impact to the windshield. See photograph #3.



Photograph #2



Photograph #3

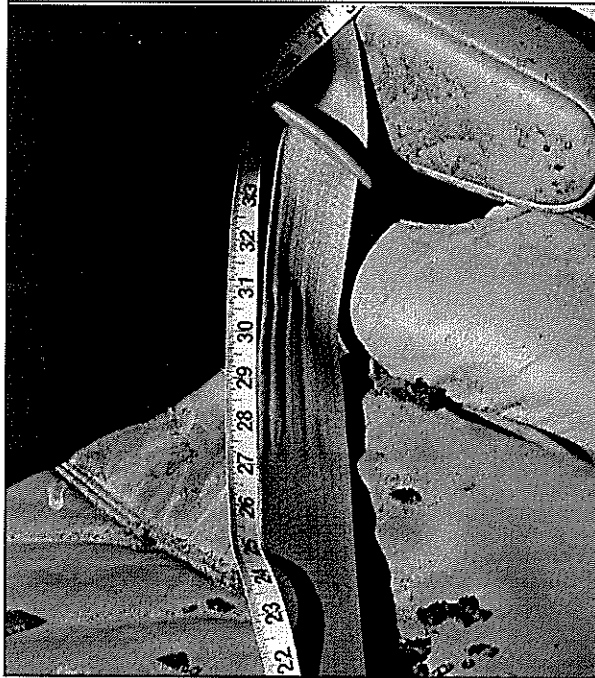
On the right side of the vehicle, the passenger grab bar located just above the passenger airbag module cover was severely bent forward and down. See photograph #4. The dashboard exhibited marks consistent with impact by Mr. Alfaro's teeth.



Photograph #4

The vehicle's front seat restraints utilize a belt system that is commonly known as "all belts to seat." This means that the anchor points of the seatbelt system are incorporated into the seat and thus, this type of belt system relies on the structural integrity of the seatback to limit forward excursion of the occupant. The driver seatbelt latch plate exhibited grooves in the plastic consistent with loading of the belt webbing. The driver seatbelt also had blood staining in areas that would not be exposed had the belt been in the stowed position. This physical evidence along with the information downloaded from the vehicle's SDM establish that the belt was being worn at the time of the collision.

The right front passenger seatbelt webbing exhibited wavy, parallel passthrough lines in the area where it contacts the latchplate. See photograph #5. This evidence is consistent with occupant loading of the seatbelt. As mentioned earlier, Mr. Alfaro had a residual injury pattern on his right shoulder consistent with shoulder belt loading.



Photograph #5

VI. Collision Severity

The accident sequence involved two frontal impacts, the first being the striking of the upside of the median crossover and the second being the subsequent impact with the ground after the vehicle became airborne. An engineering accident reconstruction performed by Thomas Feiereisen, of Ponderosa & Associates, indicates the first of these impacts was the more severe. Mr. Feiereisen has estimated that the change in velocity from the first impact was as high as 24 mph with a principle direction at approximately 12 o'clock and an impact angle relative to the horizontal of about 20 to 30 degrees. The second collision involved a yet to be determined change in velocity, but one that is estimated to be considerably less than the

first. Accurate quantification of impact related velocity change is extremely difficult to ascertain in ground impacts where the vehicle's underside plows through dirt. The trajectory and impact severity of the restrained occupants however, clearly put this accident in a category where frontal airbags are imperative.

VII. Discussion

The initial impact is likely the one in which Mr. Diaz and Mr. Alfaro sustained their injuries. Each of these individuals has testified that they were restrained and the physical evidence supports this claim. Despite being belted, both of these gentlemen articulated forward and forcefully contacted the interior components and surfaces of the vehicle, causing significant injury. Given the collision severity, one would not expect a normally seated, belted occupant to impact the interior of the vehicle with such intensity. Thus, the circumstances and physical evidence of this collision indicate that either the seatbelt system failed to properly restrain these gentlemen, or the magnitude of the impact was well beyond the range of their design parameters. In either case this was clearly a situation for which airbags were needed.

The subject vehicle is involved in a recall campaign pertaining to airbag non-deployment problems involving the crash sensing system.¹ This recall apparently involves a SDM anomaly that results in a failure to deploy during certain frontal crashes. Under crash conditions in which the forward discriminating sensor closes prior to safing sensor closure, a subsequent short duration closure and opening cycle (referred to as sensor "bounce") of the safing sensor can lead to inductance and microprocessor reset problems within the SDM. This can cause a failure of sufficient firing current impulse to the airbag module squibs.

The subject vehicle's front crash sensor is located in the area below the radiator. It is this part of the structure that was impacted and damaged as a result of ground contact during the accident. The nature of the collision was one in which the front sensor would have been

¹ NHTSA Campaign ID Number 02V178000; GM Recall 02029.

subjected to a significant acceleration impulse early in the event, one that would quite likely cause the front sensor to close prior to the safing sensor. Thus, the subject collision was one conducive to the malfunction described in the recall.

The deployment threshold of the airbag system is determined by the manufacturer and may be based on a number of factors. One factor considered is the risk of facial fracture due to impact with interior components. The goal is to ensure proper airbag deployment at collision severities where the risk of facial injury is deemed significant. The airbag is thus intended to provide protection against injury for such impacts.

In higher severity frontal collisions, the seatbelts and airbags are intended to work together to mitigate injury from impact with the interior of the vehicle. For any given seat belt restraint, there will be some level of frontal collision severity beyond which some occupants will sustain impact with interior components. One design goal of airbag restraint systems is that they will be deployed at impact severities beyond the seatbelt's capability of preventing interior impact. The deployment threshold and design of the airbag system must work in conjunction with the seatbelts.

Such was not the case in the subject accident. The restraint system as a whole failed to provide protection from interior impact as would be expected in a situation as this. At least two possibilities or a combination thereof exists. Either a malfunction, such as the aforementioned SDM problem, occurred resulting in a non-deployment, or by design the deployment threshold and characteristics of the crash sensor system are such that certain non-deployment collisions will be beyond the capabilities of the seatbelt to protect the front seat occupants. Both of these scenarios involve defect and unacceptably poor performance of the vehicle's restraint systems.

Conclusion

The occurrence and extent of Mr. Diaz' and Mr. Alfaro's injuries would not have resulted if either 1) the airbag system had deployed and operated as expected or 2) absent the airbag

deployment, the seatbelts would not have allowed such excessive forward excursion of the occupants. Clearly, both front seat occupants would have benefitted from properly deployed airbags. It is expected that the airbags would have: 1) Prevented impact between the occupants and the vehicle interior; 2) Provided energy absorption capability to reduce the forces imparted to Mr. Diaz and Mr. Alfaro; 3) Provided force distribution that would serve to mitigate injury. Wholly considered, the subject vehicle's restraint systems simply did not perform as would be reasonably expected for an impact of this nature.

The opinions expressed herein are based on the information available to date. As additional information becomes available, supplemental opinions or revisions may be warranted.

Sincerely,

Automotive Safety Research



William Broadhead
President

WGB/kmc

Attachment:

- A. Curriculum Vitae
- B. 4-Year Testimony List



GENERAL MOTORS NORTH AMERICA
Safety Integration

May 22, 2006

Mary Quinn Cooper, Esq.
ELDRIDGE, COOPER, STEICHEN & LEACH
110 West Seventh Street
Suite 200
Tulsa, OK 74119

**Expert Report of Kathryn F. Anderson
Jose C. Alfaro and Martha Alfaro v. General Motors Corporation**

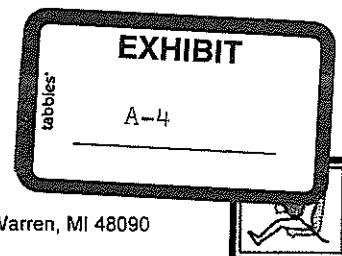
Dear Ms. Cooper:

This report contains my assessment of the development, function and performance of the restraint system in the subject vehicle, the occupant kinematics, and the biomechanics of injury associated with Mr. Jose C. Alfaro who was the right front passenger in a 2000 Chevrolet Silverado, 1500 series, four-wheel drive, extended cab pick-up truck (subject vehicle) that was involved in an accident on May 21, 2003.

QUALIFICATIONS

I have a Bachelor of Science degree in Engineering from Purdue University. The focus of my undergraduate studies was in biomedical engineering through the Interdisciplinary Engineering school at Purdue University. I also have a Masters of Science degree in Biomedical Engineering (Biomechanics) from the University of Michigan.

I have been employed by General Motors Corporation since 1991, and am currently a Field Performance Assessment Engineer for the Field Performance Assessment group. My current job responsibilities include evaluating the field performance of current and past product restraint systems, and providing technical expertise in the area of occupant protection, restraint systems, and biomechanics to various entities within General Motors. In the past, I have been responsible for the development of front and rear seat occupant protection systems and have conducted crash and sled tests to assess the performance of these systems. I have also been responsible for the design release of driver air bags, passenger air bags, and steering wheels. I have knowledge and experience in the development, testing, and design of the components that comprise frontal impact restraint systems. I am also familiar with the design, development, and testing of the General Motors C/K truck product line.





GENERAL MOTORS NORTH AMERICA
Safety Integration

I have also researched motorsports safety technology, various applications of specific occupant protection features, and the use of anthropomorphic test device measurement equipment. I actively participate in the Crash Injury Research and Engineering Network project through the University of Michigan Program for Injury Research and Education and have been an engineering fellow with the University of Michigan Program for Injury Research and Education. In addition, I participate in the USCAR Occupant Safety Research Partnership which includes joint research activities with Ford Motor Company and DaimlerChrysler Corporation.

I have more than fourteen years experience in the design and development of automotive crash protection systems and occupant injury evaluation. My CV provides a more detailed description of my various current and past job responsibilities, and my publications.

INFORMATION CONSIDERED

I have considered the information contained in the following documents in formulating my opinions about the restraint system and the mechanisms of the injuries sustained by Mr. Jose Alfaro in the accident of May 21, 2003:

Plaintiffs' Complaint;

Answer and Jury Demand of Defendant General Motors Corporation;

Plaintiffs' Responses to General Motors Corporation's First Request for Production;

Plaintiffs' Responses to General Motors Corporation's First Request for Admissions;

Plaintiffs' Responses to General Motors Corporation's First Interrogatories;

State of Colorado Traffic Accident Report of subject incident;

Shelter Insurance file and subject vehicle photographs taken 7/16/03;

Wrecker records from Joe's Garage, Inc.;

Record of climatological observations for the month of May, 2003;

Photographs of Mr. Jose Alfaro provided by Plaintiffs;

Inspection Photographs Taken by Investigation Specialists, Ltd., 2/5/04 and 2/27/04;

Accident Scene Photographs and Video Taken by Investigation Specialists, Ltd., 3/18/04;

Inspection Photographs Taken by William Broadhead, 11/16/04;





GENERAL MOTORS NORTH AMERICA
Safety Integration

Inspection Photographs Taken by Dennis Shanahan, 12/20/05;
Inspection Photographs taken by Doug Allsop, 3/9/06;
Accident Scene Photographs taken by Doug Allsop, 3/10/06;
Inspection Photographs taken by John Sprague, 3/22/06;
Report of Dennis F. Shanahan, dated April 21, 2006;
Report of Patrick M. Renfro and Kristine K. Harris, dated April 24, 2006;
Report of Thomas Feiereisen, dated April 21, 2006;
Report of William Broadhead, dated April 21, 2006;
Deposition of Jose C. Alfaro, Volume I, taken February 9, 2006;
Deposition of Jose C. Alfaro, Volume II, taken March 24, 2006;
Deposition of Gorgonia Diaz, taken February 8, 2006;
Deposition of Martha A. Alfaro, taken March 24, 2006;
Deposition of Dr. Robert Madayag, taken March 15, 2006;
Deposition of Manuel Salas, taken February 8, 2006;
Deposition of Corporal Kirk Preston, taken February 7, 2006;
Deposition of Dr. Bradley Simon, taken April 28, 2006;
Deposition of Dr. David K. Patterson, taken May 4, 2006;
SDM Data and Translation;
Subject Vehicle Invoice;
GM VIS Information;
Performance Assessment Committee Final Reports;
Restraint Systems Evaluations Considerations Book;
General Motors barrier crash and sled test documentation, photos, and videos;
FMVSS 208, 209 and 210 Compliance Documents;
Engineering Drawings;





GENERAL MOTORS NORTH AMERICA
Safety Integration

2000 Chevrolet C/K Truck Service Manual;
2000 Chevrolet C/K Truck Owner's Manual;
Jose C. Alfaro's Medical Records obtained to date.

THE INCIDENT

On May 21, 2003, Mr. Gorgonia Diaz was driving a 2000 Chevrolet Silverado extended cab pick-up truck and was traveling eastbound on interstate I-70, near milepost 436 in Kit Carson County, Colorado. Mr. Jose C. Alfaro was riding in the right front passenger seat, and 23-month-old Jacquelin Diaz-Coronell was riding in a child seat in the rear seat. As reported in the Colorado Traffic Accident Report, Mr. Gorgonia Diaz drove off the left side of the highway, into a grassy median. He made contact with the west side of a raised median crossover, causing the subject vehicle to become airborne, and eventually impact the ground with the front underside of the vehicle upon landing. Mr. Gorgonia Diaz proceeded to drive the subject vehicle to a rest area located on the north side of I-70.

REPORTED INJURIES

Mr. Alfaro, the right front passenger, was reportedly injured as a result of this accident event. Mr. Alfaro was 70 years old and reportedly 6'1" tall and 160 lbs at the time of the accident (from 5/22/03 St. Anthony Hospital Central medical records). His most clinically significant injuries reported immediately after the accident event, based on review of the documents above, are:

- 1) Right LeFort II and left LeFort II facial fractures
- 2) Minimally displaced C6 spinous process fracture
- 3) Minimally displaced C7 left transverse process fracture
- 4) Left glenohumeral anterior joint dislocation
- 5) Three or four middle left rib fractures (non-displaced)
- 6) Mild bibasilar atelectasis with possible left lower lobe pulmonary contusion
- 7) Small spleen laceration
- 8) Right knee medial collateral ligament tear
- 9) Right wrist scapholunate dissociation
- 10) 6 cm chin laceration below right lower lip
- 11) 1 cm avulsion/laceration above left upper eyebrow
- 12) Multiple abrasions and contusions





GENERAL MOTORS NORTH AMERICA
Safety Integration

These reported injuries will be addressed in this report in order to more completely discuss the occupant kinematics during the accident event.

BASIS OF OPINIONS

I have reviewed the information listed above relative to the subject 2000 Chevrolet Silverado extended cab pick-up truck that was involved in an accident on May 21, 2003, in Kit Carson County, Colorado. I have also inspected the subject vehicle. My opinions are based on the information contained in the documents previously mentioned, my inspection, my education, background and experience in automotive occupant protection research and development, and field performance assessment. I reserve the right to amend my opinions expressed herein in the event that new information becomes available to me.

ANALYSIS AND OPINIONS

I have reviewed all available scene and subject vehicle photographs. I also performed a visual inspection of the subject vehicle on April 27, 2006. The subject vehicle's rear window glass was broken out, and the forward portion of the bed of the pick-up truck was deformed forward in the center and was in contact with the back of the cab. At the time of my inspection, I also noted damage to the body and frame that caused the subject vehicle to "bow" in the middle. The front windshield was cracked in several places with one distinct impact point visible at the centerline of the windshield and two others to the left of the centerline. The rearview mirror was no longer attached to the windshield. The mirror glass was separated from the retainer, but not broken. The left rear side glass was not in place, and was found intact in the bed of the subject vehicle.

There was some contact damage to the front of the subject vehicle that was primarily concentrated at the bottom of the left front corner of the vehicle. The damage was indicative of an impact that induced a vertical input to the front structure, which would be consistent with the description of the subject incident. Dirt was found embedded in the front bumper, frame, front tow hooks, and underbody that would have been the result of the subject vehicle's initial contact with the sloped, grassy embankment leading up to the highway median crossover, and the subsequent impact into the grassy median when the subject vehicle landed on the other side of the crossover. The exterior damage to the front of the subject vehicle suggests the principal direction of force (PDOF) applied to the vehicle contained both vertical and longitudinal components.





GENERAL MOTORS NORTH AMERICA
Safety Integration

I also performed a visual inspection of the interior occupant compartment. Mr. Diaz testified that he was transporting approximately 300 pounds of raw meat in the bed of the pick-up at the time of the accident event. Upon impact, this meat was reportedly projected through the back window glass, and into the occupant compartment, impacting the occupants. The right front passenger's head restraint was bent forward in vehicle. There was extensive evidence of meat having been splattered throughout the vehicle's interior at the time of my inspection. In addition, I noted evidence of occupant contact with the interior on the driver's side of the occupant compartment. The upper rim of the steering wheel was deformed toward the instrument panel. There was physical evidence of occupant loading of the driver's seat belt latch plate, and the shoulder belt guide loop trim on the seat was dislodged. There was slight gathering in the webbing at the position where the webbing rests at the shoulder belt guide loop trim on the seat when in the stowed position. The webbing sensitivity and vehicle sensitivity features of the driver seat belt system operated as expected at the time of my inspection. The sensing and diagnostic module (SDM) non-deployment event file data that was downloaded from the subject vehicle after the accident indicates that the driver was belted at the time of the subject crash event. Based on the physical evidence of seat belt loading, and the SDM data, it is my opinion that the driver, Mr. Diaz, was belted during the accident event.

There was also evidence of occupant contact with the interior on the right front passenger's side of the occupant compartment. The assist grip located on the instrument panel directly in front of the right front passenger's seating location was deformed downward and toward the instrument panel. It was compressed against the instrument panel (at the time of my inspection, a cigarette was lodged between the assist grip and the instrument panel, but this cigarette was not located here in the earliest photos of the subject vehicle taken by Shelter Insurance and Investigation Specialists, Ltd). Gouges were found in the assist grip and in the top of the instrument panel just in front of the location of the assist grip gouge. The passenger air bag switch on the instrument panel was in the ON position. The front of the center floor console had been loaded from the right side, causing some distortion in the trim which caused debris to become trapped between the trim pieces. The HVAC outlet located under the left side of the assist grip was broken. The inboard retainer rod on the sun visor was broken, in addition to the sun visor vanity mirror. There was no physical evidence of occupant loading on the right front passenger's seat belt latch plate, or shoulder belt guide loop trim on the seat. The guide loop trim was not dislodged. There was slight gathering in the webbing at the position where the webbing rests at the shoulder belt guide loop trim on the seat when in the stowed position. The webbing sensitivity and vehicle sensitivity features of the right front passenger's seat belt system operated as expected at the time of my inspection. Based on the





GENERAL MOTORS NORTH AMERICA
Safety Integration

lack of physical evidence of seat belt loading, and the nature of Mr. Alfaro's injuries, it is my opinion that the right front passenger, Mr. Alfaro, was not belted during the accident event.

In addition to my inspection of the interior and exterior damage to the subject 2000 Chevrolet Silverado extended cab pick-up truck, I have reviewed all other available photographs of the subject vehicle and accident scene. Although I will be relying on Dr. Doug Allsop's reconstruction of the accident, it is my opinion that the accident of May 21, 2003, contained both vertical and longitudinal inputs to the front underbody structures of the subject vehicle. The initial frontal impact into the upward sloping, grassy embankment at the west side of the median crossover would have caused the right front passenger, Mr. Alfaro, to initially move forward in the longitudinal direction, and downward in the vertical direction, relative to the vehicle's interior as the truck became airborne. It is my understanding that Dr. Allsop estimated the longitudinal change in velocity experienced by the subject vehicle during this initial impact (at launch) was less than 10 mph. The subject vehicle traveled airborne for a period of time before landing, left front corner first, into the grassy median on the east side of the median crossover. It is my understanding that Dr. Allsop estimated the longitudinal change in velocity experienced by the subject vehicle during this secondary impact (at landing) was less than 10 mph, but this secondary impact would also have contained a vertical input that would have been significant enough to pitch Mr. Alfaro into the instrument panel directly in front of and slightly to the left of his seating position. This secondary impact (the landing) would have been the most significant impact to the occupants. These occupant kinematics are consistent with the sources and mechanisms of injuries sustained by Mr. Alfaro during this type of accident sequence.

Mr. Alfaro was 70 years old and reportedly 6'1" tall and 160 lbs at the time of the accident (from 5/22/03 St. Anthony Hospital Central medical records). He was found by emergency personnel to be alert and oriented times three, with major facial contusions, left shoulder pain with deformity, and right hip pain with deformity. As reported in the medical records provided, Mr. Alfaro's right hip was later found at the hospital to be uninjured and showed no sign of fracture or instability. His left shoulder was anteriorly dislocated, where the humeral head was displaced forward relative to the shoulder socket. It was also reported that he had a scapholunate dissociation in his right wrist, which is a separation or widening between the scaphoid bone and lunate bone in the right wrist. These injuries are consistent with loads that are applied through the hands as the torso moves forward, as would be the case if Mr. Alfaro were bracing himself during the accident. I suspect that Mr. Alfaro may have attempted to initially brace himself, but he would not have been able to brace himself throughout the entire accident sequence.





GENERAL MOTORS NORTH AMERICA
Safety Integration

Mr. Alfaro was also diagnosed with LeFort II facial fractures on the right and left sides of his face. The left LeFort II fracture included fractures of the left zygomaxillary complex, zygomatic arch, nasal bone, orbital floor, supraorbital rim, maxillary sinus and pterygoid plate. The right LeFort II fracture included fractures of the right zygomatic arch, nasal bone, infraorbital rim, maxillary sinus, and pterygoid plate. Mr. Alfaro was also noted to have a 6 cm facial laceration below the right lower lip. These injuries are consistent with a blunt impact across the front of the mid-face, slightly more concentrated to the left side than the right. Mr. Alfaro was also found to have a minimally displaced fracture of the spinous process of the 6th cervical vertebra and the left transverse process of the 7th cervical vertebra. A 1 cm avulsion/laceration was noted above his left eyebrow. When the secondary impact occurred (the landing), the front end of the subject vehicle made contact with the ground first, "diving" into the grassy median. Upon impact, Mr. Alfaro's head most likely contacted the vehicle's header at the right front sun visor, inducing his left-sided forehead laceration above the eyebrow and his neck fractures. Mr. Alfaro's upper torso would have continued pitching forward and downward relative to the vehicle's interior, allowing his face to impact the instrument panel directly in front of his seating position, inducing his facial fractures and chin laceration.

In addition to the above-mentioned injuries, Mr. Alfaro reportedly sustained three or four non-displaced fractures of middle left ribs with no evidence of a hemothorax or pneumothorax (these fractures were reported as anterior fractures on his 5/22/03 chest CT, and as lateral fractures on his 5/22/03 chest single view x-ray). It is suspected that Mr. Alfaro's rib fractures and left pulmonary contusion also resulted from direct impact with the instrument panel. In addition to the vertical deformation in the assist grip, the assist grip was also deformed forward in vehicle, compressed against the instrument panel. This deformation most likely occurred when Mr. Alfaro's torso moved forward and slightly to the left, during the final impact with the grassy median upon landing. He was also reported to have had a small spleen laceration that may have been a result of impact during rebound with the inboard armrest on his seat which was apparently in the down position at the time of the crash. Mr. Alfaro also sustained a tear in the medial collateral ligament in his right knee, which was most likely due to contact with the glove box door.

The sensing and diagnostic module (SDM) senses vehicle decelerations in the longitudinal direction, such as those experienced when the vehicle is in a frontal or near frontal collision. In these types of impacts, the occupant's motion will be primarily forward into the seat belt and/or frontal air bag. In order for the air bag to deploy, the vehicle must exceed a pre-determined deployment threshold. This threshold will be exceeded when the SDM experiences a sufficient level of longitudinal deceleration to warrant the need to deploy the frontal air bags. My review and analysis of the information pertaining to the May 21, 2003,





GENERAL MOTORS NORTH AMERICA
Safety Integration

incident indicates the subject vehicle did not experience a frontal or near frontal impact that produced a longitudinal deceleration that was sufficient enough to warrant the deployment of the frontal air bags. The sensing system is a predictive system that must anticipate the occurrence of deployment level crash events, based on inputs sensed in the longitudinal direction. Neither the impact of the 2000 Chevrolet Silverado with the sloped, grassy embankment nor the impact upon landing in the grassy median, generated a level of longitudinal deceleration significant enough to be detected as the beginning of a deployment level crash event. Based on a review of the information contained in the documents listed above, and my inspection of the vehicle, it is evident that the subject vehicle did not experience a large enough change in longitudinal velocity in a short enough period of time to warrant deployment of the frontal air bags.

The driver and right front passenger seat belt systems in the 2000 Chevrolet Silverado extended cab pick-up truck are all-belts-to-seat systems. The lap and shoulder belt system is entirely mounted to the seat, which includes the retractor, webbing, latch plate, and buckle assembly. The seat belt retractor contains two different types of locking mechanisms that are designed to activate in response to a crash event in order to restrain the occupant. Either one of these mechanisms may perform the safety belt lock-up function during the crash. The first mechanism within the seat belt retractor senses vehicle decelerations and locks the seat belt. The second mechanism within the seat belt retractor senses how quickly the seat belt webbing is being pulled out, and locks the seat belt. The seat belt functions to provide the primary restraint in frontal impacts of all severities. The seat belt is also designed to work in conjunction with the supplemental air bag. In addition to providing the primary restraint, the seat belt functions to help keep the occupant in position during an impact. The air bag is designed to distribute the crash forces experienced by the occupant over a larger area of the upper body, in order to stop the occupant more gradually. Seat belts and air bags are intended to help mitigate injury, but cannot prevent all injuries to all occupants in all types of crashes.

Although Mr. Alfaro's injuries were a result of impact with the vehicle's interior, and a frontal air bag may be designed to reduce the risk of injury to the occupant due to contact with the vehicle's interior, a frontal air bag is designed to deploy in response to longitudinal vehicle inputs. Frontal air bag deployment decisions are based on how quickly the vehicle slows down during the crash event, in other words the change in longitudinal velocity over time. The air bag is designed to provide supplemental protection in certain frontal or near frontal collisions. Air bags are not designed to deploy in some accidents of long duration, where occupants may be at risk of being out-of-position by the time the sensing system detects a crash and





GENERAL MOTORS NORTH AMERICA
Safety Integration

deploys the air bags, exposing that occupant to an increased risk of inflation induced injury. The frontal impact threshold for air bag deployment is specifically set at a level where the risk of exposing a potentially out-of-position occupant to an inflation induced injury is balanced against the benefits of providing supplemental protection against significant and life-threatening injuries. The subject 2000 Chevrolet Silverado air bag and seat belt systems were designed to meet the Federal Motor Vehicle Safety Standard (FMVSS) 208, 209 and 210 requirements. In addition, General Motors conducted due care testing to develop the performance of the air bag and seat belt systems for other simulated real world conditions, including the assessment of inflation induced injuries to out-of-position occupants. Various types of component tests, sled tests and full scale crash tests were conducted by General Motors during the development process of the restraint system in this generation of Chevrolet Silverado. The Performance Assessment Committee (PAC) Report and GM's Restraint Systems Evaluations Considerations Book document the considerations addressed in balancing the performance of the restraint system in the 2000 Chevrolet Silverado pick-up truck.

SUMMARY

It is my opinion, based on a reasonable degree of scientific certainty, that:

- Mr. Alfaro was unbelted during the accident event that occurred on May 21, 2003, and was most likely bracing himself with both hands at the start of the accident sequence, contributing to his left anterior shoulder dislocation and right wrist scapholunate dissociation injuries.
- Mr. Alfaro's forehead laceration and neck fractures were a result of contact with the subject vehicle's header in the region of the sun visor.
- Mr. Alfaro's face and upper torso impacted the instrument panel during the crash event, resulting in his previously mentioned facial and chest injuries.
- The severity of Mr. Alfaro's injuries was a direct result of the circumstances of the May 21, 2003, accident event, where the subject vehicle experienced vertical and longitudinal decelerations.
- The left and right front seat belt retractors were operational and functioning as designed at the time of my inspection.





GENERAL MOTORS NORTH AMERICA
Safety Integration

- Had Mr. Alfaro been wearing his seat belt, it would have restrained him, and the severity of his injuries would have been reduced.
- The subject vehicle, 2000 Chevrolet Silverado, 1500 series, extended cab pick-up truck, did not experience a sufficient level of longitudinal deceleration to result in an above threshold, deployment level impact.
- The design, development, and testing of the air bag system in the 2000 Chevrolet Silverado, 1500 series, extended cab pick-up truck was reasonable and appropriate.
- The design, development, and testing of the front seat belt system in the 2000 Chevrolet Silverado, 1500 series, extended cab pick-up truck was reasonable and appropriate.
- The frontal air bag and seat belt systems in the 2000 Chevrolet Silverado, 1500 series, extended cab pick-up truck are reasonably safe, and meet or exceed the applicable Federal Motor Vehicle Safety Standards.

In addition, I may offer historical information about the design and development of General Motors vehicles in general, and of the 2000 Chevrolet Silverado, 1500 series, extended cab pick-up truck in particular. This type of information is described in the final report to the Performance Assessment Committee and the Restraint Systems Evaluation Considerations Book.

My opinions are based on my education, my automotive industry experience as an occupant protection system development/design engineer and researcher for over 14 years, and my review of the general information outlined above. The investigation into the circumstances surrounding the crash event that occurred May 21, 2003, is ongoing, and my opinions outlined above are based on the information available to me at this time. I reserve the right to amend my opinions should additional information become available to me.





GENERAL MOTORS NORTH AMERICA
Safety Integration

I am a salaried General Motors employee and received no additional compensation for my work on this case. Any publications that I have authored during the last ten years are listed on my CV.

Kathryn F. Anderson

Kathryn F. Anderson
Field Performance Assessment
Vehicle Structure and Safety Integration
General Motors Corporation



Exponent

Exponent
23445 North 19th Avenue
Phoenix, AZ 85027

telephone 623-582-6949
facsimile 623-581-8814
www.exponent.com

May 22, 2006

Mr. Peter F. Jones, Esq.
Hall & Evans, L.L.C.
1125 Seventeenth Street, Suite 600
Denver, Colorado 80202

Re: Jose C. Alfaro and Martha Alfaro v General Motors Corporation, Honeywell,
Inc. f/k/a AlliedSignal, Inc., Delco Electronics Corporation, Delphi Auto
Systems, f/k/a Inland Fisher Guide, John Doe, and John Doe, Inc.
In the United States District for the District of Colorado
Civil Action No.: 05-MK-645 (BNB)

Dear Mr. Jones:

Following your request, Exponent® Failure Analysis Associates (Exponent) has performed certain investigation regarding an accident that occurred on May 21, 2003, involving a 2000 Chevrolet Silverado pickup operated by Mr. Gorgonio Diaz, with Mr. Jose Alfaro as his passenger.

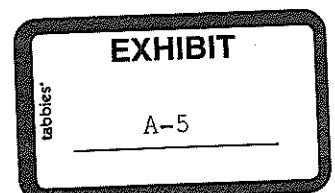
The purpose of this letter is to report the results of our investigation. The following sections list the material reviewed by Exponent, describe our understanding of the circumstances of the incident, discuss our inspection of the vehicle, and present our preliminary observations and conclusions.

With respect to automotive restraints, we will discuss their design, manufacture, assembly, testing, operation, usage, performance and applicable Federal Motor Vehicle Safety Standards (FMVSS).

Materials Reviewed

- Complaint;
- Plaintiff's Disclosure of Expert Witnesses;
- Honeywell's 1st set of Interrogatories to Plaintiff;
- Honeywell's 1st Request for Production of Documents and Tangible Things;
- Revised Scheduling Order;
- Motion for Protective Order;
- Injury Analysis, Dennis Shanahan, 4/21/06;
- Rehab Consulting Services, Inc., Patrick M. Renfro, RN, MS, CDMS, CRC Kristine K. Harris, MS, CRC dated 4/24/06;
- Automotive Safety Research Inc., William G. Broadhead dated 4/21/06;

PH09502.000/C0T0/0506/R295



Mr. Peter F. Jones, Esq.
May 22, 2006

Page 2

- Ponderosa, Thomas Feiereisen, dated 4/21/06;
- Shanahan Photos dated 12/20/05;
- Plaintiff's Inspection photos of subject vehicle, dated November 16, 2004
- Photographs of Jose Alfaro's body;
- WGB Photos and Video dated 11/06/04;
- Vehicle Inspection by Daniel Davee and Dr. Christine Raasch on November 22, 2005
- Vehicle and Scene Inspection photos of Jon Bready, November 21-22, 2005
- Surrogate Study by Daniel Davee on January 27, 2005
- Bradley Simon with Exhibit #1
- Gorgonio Diaz;
- Jose Alfaro Volume I dated 2/9/06;
- Kirk Preston
- Manuel Salas
- Robert Madayag
- David Patterson
- SDM Download information
- FMVSS 208, 209, 210

Accident Information

According to the State of Colorado Traffic Accident Report, at approximately 11:05 pm on May 21, 2003, Mr. Gorgonio Diaz, age 19, was driving a 2000 Chevrolet Silverado Z71 1500 extended cab pickup eastbound on I-70. Mr. Jose Alfaro, age 70, was seated in the right front passenger seat, and 23-month-old Jaquelin Diaz was in the center rear position. Approximately 0.2 miles west of milepost 436, Mr. Diaz drove off the left side of the highway into the depressed median for 269 feet. He then struck a raised median crossover with the front undercarriage of the pickup and went airborne for 50 feet before the front of the vehicle impacted with the ground. After the vehicle came to rest, Diaz drove to a rest stop and reported the accident. The pickup was equipped with airbags, but they did not deploy. Mr. Diaz was cited for careless driving causing injury.

The accident report indicates that Mr. Diaz was a restrained occupant, Mr. Alfaro was unrestrained, and Ms. Diaz was restrained in a child safety restraint. Mr. Diaz was listed as suffering a non-incapacitating injury, Mr. Alfaro was listed as suffering an incapacitating injury, and Ms. Diaz was noted to have no injury.

Plaintiff's complaint alleges that Jose Alfaro's seat belt failed to restrain him and claims that the seatbelt is defective. The remainder of the report will address this issue.

Mr. Peter F. Jones, Esq.
May 22, 2006

Page 3

Background

The 2000 Chevrolet Silverado has five designated seating positions; two fronts and three rear. The outboard seating positions are equipped with Type 2 seat belt assemblies and the center rear seating position is equipped with a body-mounted static Type 1 seat belt assembly.

Seat belt assemblies

The front outboard seating positions of the subject vehicle are equipped with what is commonly referred to as a three-point, all-belts-to seat (ABTS) design. It consists of a retractor and an end release buckle assembly both mounted to the seat structure. The indirect emergency locking, dual sensitive (vehicle and web sensitive) retractor is attached to the lower seatback frame and is fully enclosed within the seat's trim. The retractor assembly incorporates adjustment hardware for the stowage of webbing and an inertia mechanism, which is capable, when locked, of withstanding restraint forces. Webbing from the retractor spool is routed upward inside the upholstered seat by means of a plastic guide tube to a roller assembly located high on the outboard side of the seat back and exits via an escutcheon (which is similar to a D-ring in body mounted seat belt assemblies). The webbing is anchored to the seat frame via a metal anchor. The retractor assembly also incorporates a single slot tongue. When the seat belt assembly is donned, the tongue fastens to an end-release buckle attached to the inboard side of the seat. The right front retractor is also equipped with a Child Hold Out Mechanism (CHOM), which converts the emergency locking retractor to an automatic locking retractor when activated.

Assuming that an occupant has donned the seat belt, the retractor typically remains in the unlocked mode except during a rapid deceleration (such as during a crash) or change in orientation of the vehicle or when the webbing is rapidly extracted. The vehicle sensing mechanism locks once a sensor detects the necessary condition(s) to arm the locking mechanism and a small amount of webbing is extracted. The rotational inertia sensor can independently cause the retractor to lock due to webbing extraction. Either mechanism (vehicle or web sensor) can cause the retractor to lock. The retractor will then remain locked unless and until web tension is removed and a small amount of webbing is allowed to retract.

Vehicle and Seat Belt Inspection

My inspection of the subject vehicle was conducted at Ponderosa Engineering in Lafayette, Colorado on November 22, 2005. The subject vehicle was at this facility under the control of the Plaintiff's attorney. My primary focus was the inspection of the front seating positions and seat belt assemblies.

Inspection of the driver's seat belt assembly revealed witness marks consistent with usage of that seatbelt during a wreck and that the driver's seatbelt provided occupant restraint during the collision. These included deformation of the seat belt escutcheon and displacement of that escutcheon from the seatback, and characteristic abrasions on the loading surface of the tongue web slot. Inspection of the right front seat belt assembly revealed no witness marks consistent

Mr. Peter F. Jones, Esq.
May 22, 2006

Page 4

with usage of that seatbelt during a wreck. The right front seat belt assembly also contained no marks consistent with a "release" of the seatbelt buckle during a collision. Several stains and abrasions were observed on the right front seat belt webbing and related components, but these marks are consistent with normal usage and stowage of the seat belt in the vehicle, not with its use by an occupant during a collision. I observed no accident load marks on the right front passenger's seatbelt and no evidence that would be consistent either with a "spool out" or release of that seatbelt under accident conditions. My findings are consistent with the Colorado Traffic Accident Report.

In addition, other evidence, consistent with the movement of an unrestrained occupant during a collision was found in the vehicle, including: cracked mirror glass in the sun visor mirror, broken visor mounting bar, deformation of the grab bar over the glove compartment, apparent teeth marks on the grab bar, and apparent teeth marks on the dashboard forward of the grab bar.

I have also observed certain photographs of Mr. Alfaro's right shoulder, which the Plaintiff claims are consistent with his alleged use of a seatbelt. I will defer to Dr. Banks for comments about the medical cause of the marks observed on Mr. Alfaro's body. However, if the seatbelt had interacted with Mr. Alfaro to an extent necessary to cause the marks shown in the photographs, then Newton's Laws Of Motion indicate that some reciprocal evidence should be present on the seatbelt webbing if it was the object that caused marks on Mr. Alfaro's body. There are no such marks present on the webbing, leading to the conclusion that the marks photographed on Mr. Alfaro's body were caused by some mechanism other than his interaction with a seatbelt during the accident.

The plaintiff's witnesses suggest that a three-point restraint system failed to restraint Jose Alfaro. However, the effectiveness of any seat belt assembly is completely compromised by an occupant's failure to use the seat belt.

It has been alleged that Mr. Alfaro was a restrained passenger immediately prior to the subject accident of September 29, 2001. However, that claim is inconsistent with both the police report and the physical evidence. Inspection of the driver's seat belt assembly revealed no witness marks consistent with usage or accident loading of the restraint assembly during the subject accident.

Surrogate and Exemplar Vehicle Inspection

A surrogate study was conducted using an exemplar vehicle and a surrogate of similar size and weight to Jose Alfaro. This study indicated that Jose Alfaro would have had to extract nearly all the seat belt webbing from the retractor to reach a position where he could have struck and deformed the handle over the glove compartment, leaving the apparent teeth marks in the handle and dashboard that I observed during my inspection of the subject vehicle.

Prior to the study, the exemplar seat belt webbing was inspected and found to have wrinkles and striations at the locations where the webbing passed through the escutcheon. These marks were

Mr. Peter F. Jones, Esq.
May 22, 2006

Page 5

substantially similar to those visible in the photographs of the subject webbing taken by Ponderosa Associates. Clearly, these markings are due to stowage and not evidence of occupant loading. In addition, the subject seat belt assembly was observed to have an aftermarket sleeve attached to the webbing that would also exaggerate the wrinkles in this area.

Conclusions

Based upon my background, training and experience in the areas of mechanical engineering, analysis of occupant restraint systems, and materials reviewed to date, I have reached the following conclusions and hold each of the following opinions to a reasonable degree of scientific and engineering certainty:

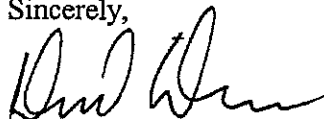
1. The seat belt assemblies in the 2000 Chevrolet Silverado were not defectively designed, manufactured, or assembled.
2. The seat belt assemblies in the subject vehicle meet all applicable Federal Motor Vehicle Safety Standards.
3. The absence of characteristic accident load marks on Mr. Alfaro's seatbelt webbing and associated hardware, and a comparison with the marks that are present on the driver's seatbelt, confirm that Jose Alfaro was not using his functional and available seatbelt at the time of the subject accident.
4. Had Mr. Alfaro chosen to use his functional and available seatbelt, it would have provided substantial restraint during the subject accident.

The foregoing opinions and conclusions are based on the information available to me at this time. I would appreciate an opportunity to consider any additional or different information that may become available at a later date. If necessary, I will author a supplemental report.

Exponent currently charges \$330 per hour for all my consulting services. Attached is a list of my previous four years testimony. In preparation for trial, I plan on making exhibits to illustrate many of the opinions expressed in this matter.

If you have further questions, please do not hesitate to call.

Sincerely,



Daniel Davee
Principal Engineer



GENERAL MOTORS NORTH AMERICA
Safety Integration

May 22, 2006

Mary Quinn-Cooper, Esquire
ELDRIDGE COOPER STEICHEN & LEACH
110 West Seventh Street
Suite 200
Tulsa, Oklahoma 74119

Re: Jose C. Alfaro, et al vs. General Motors (PL469246)

Dear Ms. Cooper:

This report expresses my analysis and opinions of the supplemental inflatable restraint system and its performance during the collision involving Jose C. Alfaro on May 21, 2003.

ENGINEERING REPORT OF JOHN SPRAGUE

I. BACKGROUND

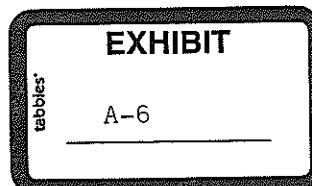
A. Engineering Education

I earned a Bachelor of Engineering degree from Vanderbilt University. I have completed Traffic Accident Reconstruction I from the Northwestern University Traffic Institute of Evanston, Illinois. A copy of my *curriculum vitae* and testimony list is attached to this report. Any publications that I have authored during the last 10 years are listed on my CV.

B. GM Employment

I became an employee of the Delco Electronics Division of General Motors in 1981. In 1993 I became a Systems Applications Engineer with the Supplemental Inflatable Restraints group at Delco Electronics. In 1997 I began a position as a Resident/ Design Release Engineer for Delco Electronics working with air bag sensing systems at General Motors. (I was an employee of GM from 1981 until 1999. Between 1999 and 2001 I was an employee of Delphi Automotive Systems.) My responsibilities

FIELD PERFORMANCE ASSESSMENT
Mail Code: 480-111-E20 • 30200 Mound Road • Warren, MI 48090





GENERAL MOTORS NORTH AMERICA
Safety Integration

have included the development and implementation of air bag sensing systems and performance for many General Motors vehicles, including frontal and side impact air bag systems. I am knowledgeable about vehicle and component level testing conducted to evaluate the performance of frontal and side impact air bag sensing systems. In developing air bag sensing systems, I also have been a member of safety performance teams that were responsible for balancing the decisions of when an air bag should be immune to deployment and when an air bag deployment is intended. I have also been responsible for the vehicle level integration of the air bag sensing components as a design release engineer. I have provided support to vehicle assembly plants regarding air bag sensing systems. I have specialized knowledge and expertise concerning air bag sensing system design, performance, analysis, integration, and manufacturing.

Since 2001 I have been employed by GM as a Field Performance Assessment Engineer in the Field Performance Assessment Department. My current job responsibilities involve evaluating the field performance of General Motors vehicles, including the areas of air bag systems and their components; providing technical and engineering analysis of product liability allegations; maintaining knowledge of current General Motors products; and consulting with various entities within General Motors regarding the field performance of GM vehicles. I am personally familiar with the design, development, testing, and manufacturing processes of GM's products. I am familiar with the design of the air bag system and the testing conducted during the development of the occupant protection system in the subject 2000 Chevrolet Silverado vehicle.

II. MATERIAL REVIEWED

I have reviewed the following material:

1. Plaintiffs' Complaint,
2. Answer and Jury Demand of Defendant General Motors Corporation to the Complaint,
3. Answer of Delco Electronics Corporation to Complaint,
4. General Motors Corporation's First Request for Production to Plaintiffs,
5. General Motors Corporation's First Request for Admissions to Plaintiffs,

FIELD PERFORMANCE ASSESSMENT
Mail Code: 480-111-E20 • 30200 Mound Road • Warren, MI 48090





GENERAL MOTORS NORTH AMERICA
Safety Integration

6. General Motors Corporation's First Interrogatories to Plaintiffs,
7. Plaintiffs' Responses to General Motors Corporation's First Request for Production,
8. Plaintiff's Responses to General Motors Corporation's First Request for Admissions,
9. Plaintiff's Responses to General Motors Corporation's First Interrogatories to Plaintiffs,
10. Shelter Insurance Company's file for Claim Number 15-1-4807942-4,
11. State of Colorado Traffic Accident Report for the subject collision,
12. The deposition transcript of Kirk Preston from February 7, 2006,
13. The deposition transcript of Gorgonia Diaz from February 8, 2006,
14. The deposition transcript of Jose Cano Alfaro from February 9, 2006,
15. The deposition transcript of Jose Cano Alfaro from March 24, 2006,
16. The deposition transcript of Martha Avelar Alfaro from March 24, 2006,
17. The deposition transcript of Robert Madayag, M.D., from March 15, 2006,
18. The deposition transcript of Manuel Salas from February 8, 2006,
19. The deposition transcript of Bradley Simon, M.D. from April 28, 2006,
20. The deposition transcript of David K. Patterson, M.D. from May 4, 2006,
21. Photographs of the subject vehicle taken by Investigation Specialists Ltd,
22. Photographs of the subject vehicle taken during my inspection on March 22, 2006,
23. Photographs of the subject vehicle taken by Kathryn Anderson,
24. Photographs of the subject vehicle taken by Doug Allsop,
25. Photographs of the collision scene taken by Doug Allsop,
26. Various photographs of Jose Alfaro taken after the subject collision,
27. Video from the site of the subject collision taken on March 18, 2004,
28. The Vetronix Crash Data Retrieval (CDR) System Report for the data downloaded from the subject vehicle's SDM,
29. The Hexadecimal Translation Tool (HTT) Report for the data that was downloaded from the subject vehicle's SDM,
30. Plaintiffs' Disclosure of Expert Witnesses for the subject case,
31. The April 21, 2006, report of Dennis F. Shanahan, M.D., M.P.H., for the subject case,
32. The April 24, 2006, report from Rehab Consulting Services, Inc. for the subject case,
33. The April 21, 2006, report of Thomas Feiereisen for the subject case,
34. The Preliminary Report of William G. Broadhead for the subject case,
35. Final Reports to the Performance Assessment Committee applicable to the 2000 Chevrolet Silverado,
36. Air Bag Sensing System Summary applicable to the 2000 Chevrolet Silverado,
37. Crash Tests with substantially similar vehicles,
38. Component location drawings for the air bag system,
39. Documents describing the hardware and operation of the air bag sensing components,
40. Product Definition Document applicable to the subject vehicle's SDM,
41. Vehicle Invoice and GM Vehicle Inquiry System Information from the subject vehicle,
42. Campaign Bulletin for General Motors Voluntary Product Recall Campaign No. 02029,
43. General Motors FPE file on the investigation that led to GM's Voluntary Product Recall Campaign No. 02029,
44. The Owner's Manual for the 2000 Chevrolet Silverado,
45. The Service Manual for the 2000 Chevrolet Silverado.





GENERAL MOTORS NORTH AMERICA
Safety Integration

III. FACTS

This case involves a 2000 Chevrolet Silverado with vehicle identification number (VIN) 1GCEK19T1YE143024 with a driver and passenger supplemental restraint system (SRS). Gorgonia Diaz was driving the subject vehicle in Kit Carson County, Colorado, on May 21, 2003. While traveling eastbound on Interstate 70 near Milepost 436, the subject truck went off the left side of the roadway and into a depressed median. According to the State of Colorado Traffic Accident Report, the truck traveled approximately 269 feet through the median before striking a raised median crossover with the front undercarriage. Reportedly, the Silverado then went airborne for approximately 50 feet before impacting the ground with the front of the vehicle. The vehicle continued forward and was then driven from the scene to report the collision. The air bags in the subject vehicle did not deploy as a result of the collision.

This vehicle was subject to the General Motors Voluntary Product Recall Campaign 02029, Air Bag Sensing Diagnostic Module. The Vehicle Inquiry System report shows that the Campaign Status for Campaign Number 02029 was "Open."

I inspected the post-collision damaged vehicle on March 22, 2006.

IV. THE AIR BAG SYSTEM

The frontal air bag system in the 2000 Chevrolet Silverado is a supplemental restraint system designed to augment the primary restraint, the lap/shoulder belt. The supplemental inflatable restraint system in the 2000 Chevrolet Silverado primarily consists of a driver's air bag module on the hub of the steering wheel, a passenger air bag module located on the right side of the dash, and the air bag sensing system.

The air bag sensing system consists of a Sensing and Diagnostics Module (SDM) located under the driver's seat and a front sensor on the lower radiator support of the vehicle. The SDM contains an accelerometer, a microprocessor, an electro-mechanical arming sensor, supporting circuitry for





GENERAL MOTORS NORTH AMERICA
Safety Integration

communications, filtering, energy reserve, diagnostics, and the air bag deployment drivers. The microprocessor contains a deployment control algorithm to predict if an event is severe enough to warrant an air bag deployment to restrain the vehicle's front occupants. The SDM performs diagnostics on the air bag system and warns the driver if a diagnostic condition exists. The SDM also provides an energy reserve to deploy the air bags. It can also store some crash-related information.

The SDM in the 2000 Chevrolet Silverado uses information from the accelerometer, the front sensor, and the arming sensor to determine if deployment of the air bags is required. The deployment control algorithm in the SDM is enabled by the accelerometer output. After algorithm enable, the microprocessor compares measured acceleration, calculated values, and front sensor status to calibration parameters stored in the SDM. If the algorithm commands an air bag deployment and the arming sensor closes, electrical power is provided to both sides of the air bag deployment circuits. When the algorithm commands an air bag deployment, it permanently sets a Diagnostic Trouble Code 51 (Deployment Commanded) in the SDM and records certain information in a deployment event file.

The sensing system design was based on the vehicle safety system performance goals. Vehicle level testing data for both deploy and non-deploy events, as well as required air bag deployment criteria for occupant protection were used to develop the sensing system. The events used to develop the sensing system included full frontal crashes into a rigid barrier, angle crashes, pole impacts, rough road, and service abuse tests. Computer simulation, component level testing, and vehicle testing were used to develop the sensing system. This sensing system development was performed during the design and development of the vehicle.

Whether there is an air bag deployment is dependent upon the response of the sensing system to longitudinal (i.e., front to back) deceleration input, influenced by the angle of impact, severity of impact, structural deformation, nature of object struck and other factors. If a 2000 Chevrolet Silverado goes straight into a wall that does not move or deform the threshold level for deployment is about 9 to 16 mph.





GENERAL MOTORS NORTH AMERICA
Safety Integration

The pre-impact travel speed necessary to generate an air bag deployment may be different if the object struck is some combination of narrow, angled, movable, or deformable. If the angle of impact is not a full frontal, it will take a larger total force to generate the same longitudinal inputs as a full frontal impact. The air bag deployment thresholds for each GM vehicle line are developed for that line to balance the injury potential from a deploying air bag with the mitigating effects an air bag has for serious injuries in deployment level collisions.

The air bag system for the 2000 Chevrolet Silverado was developed through computer modeling, sled testing, and full-scale barrier testing with instrumented dummies. Development activity is described in more detail in the Final Report to the Performance Assessment Committee.

The components of the air bag system for the 2000 Chevrolet Silverado were specified, tested, and validated as part of the vehicle design to ensure that the proper materials and components have been chosen for the system. The air bag system was also tested in full-scale barrier, rough road, and service abuse tests to address not only government requirements but also, GM's internal system performance goals.

V. GENERAL MOTORS PRODUCT RECALL CAMPAIGN NUMBER 02029

In August 2002, General Motors voluntarily issued Product Recall Campaign Number 02029. General Motors determined there was a defect that relates to motor vehicle safety in certain 2000 Model Year Chevrolet Silverado, Tahoe, and Suburbans; and GMC Sierra, Yukon, and Yukon XLs (The GMT800 family). Some of the vehicles had an air bag sensing and diagnostics module (SDM) that contained an anomaly that could result in the driver and passenger's air bag failing to deploy during certain frontal collisions, although deployment was commanded. The vehicles involved in GM's Voluntary Product Recall Campaign No. 02029 had been built within specific VIN ranges. The issues that led to GM's Voluntary Product Recall Campaign 02029 did not involve a condition of the air bag





GENERAL MOTORS NORTH AMERICA
Safety Integration

sensing system's ability to detect a crash and determine if the air bags should deploy. Instead it involved a condition of the system that executes the air bag deployment command. It affects only those vehicles involved in collisions with sufficient force and direction where a command to deploy the air bags was given and the frontal air bags did not deploy. When this condition occurred, the SDM sensed a deployment-level crash event; commanded an air bag deployment in response to that event; permanently recorded a DTC 51 and Deployment Event; but then did not deploy the air bags.

For the SDDs (the deployment drivers) within the SDM to send current to deploy the air bags, they must receive information from the microprocessor within the SDM that the deployment threshold boundary conditions have been met, and they must also detect closure of the arming sensor within the SDM. The SDDs must receive both messages, simultaneously, before current will be sent. In those events where the recall campaign condition manifested itself, the deployment threshold boundary conditions had been met before there was a solid closure of the arming sensor. Under that circumstance, current flow to the air bags might be interrupted before the air bags could deploy, if the arming sensor bounced before solidly closing. Arming sensor bounce (a close/open/close within a very short time) would cause the SDDs to reset and shut off current flow to the air bags. The recall campaign involved recalibrating SDMs in the field, to change the auxiliary boundary curves, so that the deployment threshold boundary conditions would not be met before there was a solid arming sensor closure.

The SDM supplier added components to the circuit boards of the SDMs supplied for GMT 800s that went into production starting in February of 2000 that eliminated the ability of the SDDs to reset and shut off current flow to the air bags after the deployment threshold boundary conditions have been met. Those 2000 model year GMT 800s produced in February 2000 and later, with SDMs that incorporated these hardware changes, were not subject to GM's Voluntary Product Recall Campaign 02029.





GENERAL MOTORS NORTH AMERICA
Safety Integration

VI. OBSERVATIONS

I have reviewed the available material and have made the following observations:

The subject collision was not a full frontal rigid barrier impact. The collision involved an impact of the vehicle's undercarriage with a raised median crossover. The vehicle went airborne after striking the crossover and impacted the ground with the front of the vehicle. The vehicle then continued on before coming to rest in the median.

My review of the available photographs and inspection of the vehicle indicate that there was damage to the front of the vehicle. Dirt was also evident in the front of the vehicle. This is consistent with the reported impact to the raised median crossover and subsequent impact with the ground. Unlike a rigid barrier, the median crossover and the ground in the median that were struck in this collision would have been able to deform upon impact. In addition, the post-collision vehicle shows signs of substantial vertical loading to the front of the vehicle. This is also consistent with the description of the crash. This type of vehicle damage is also consistent with an event where a significant amount of the forces acting on the vehicle were not in the longitudinal direction.

The SDM in the subject vehicle can record data specific to one deployment level event and one non-deployment event, or two deployment level events. If the SDM detects a deployment level crash it sets a code for deployment commanded and creates a permanent "deployment event" record. This record is written to non-volatile memory, and therefore the deployment event is not erased from the SDM's memory, and the SDM will not overwrite the data. A non-deployment event is severe enough to "wake up" the sensing algorithm in the SDM but not severe enough to deploy the air bags. A non-deployment event can be overwritten by another non-deployment event. For the SDM used in the subject vehicle, a non-deployment event record may be overwritten by the next non-deployment event regardless of severity. In addition, a non-deployment event file is cleared from the SDM memory after sufficient ignition cycles.





GENERAL MOTORS NORTH AMERICA
Safety Integration

The SDM data was downloaded by Gary Burr during his inspection on February 5, 2004. The SDM that was downloaded was the original SDM that was installed in the subject 2000 Chevrolet Silverado. The SDM data did not contain a deployment event file. This indicates that the impacts experienced by the subject vehicle were below the threshold for an air bag deployment in a 2000 Chevrolet Silverado.

The SDM data did contain a non-deployment event record from ignition cycle 11153. The non-deployment event record shows that there were no air bag system fault codes present and that the air bag system warning lamp was off at the time of the non-deployment event. This indicates that the air bag system was functioning properly at the time of the non-deployment event. The SDM recorded a driver's seat belt switch status of "buckled" at the time of the non-deployment event. The maximum SDM recorded velocity change in the recorded non-deployment event was 0.75 mph. Another non-deployment event had occurred 200 milliseconds prior to the recorded non-deployment event.

The SDM continually performs diagnostic evaluations on the air bag system. The SDM warns the driver if there is a diagnostic condition that could affect the functionality of the air bag system. There is no evidence of an air bag warning light prior to the subject collision. This would indicate that the air bag system was functional at the time of the crash event. In addition, photographs from Gary Burr's vehicle inspection document that the air bag system warning lamp would illuminate at the time of the inspection.

VII. CONCLUSIONS

I have reviewed the available material and, along with my education and experience, state with a reasonable degree of engineering certainty:

1. The air bag system design in the 2000 Chevrolet Silverado was reasonable and appropriate;
2. The longitudinal inputs in the impacts from the median crossover and subsequent landing were below the air bag deployment threshold for the 2000 Chevrolet Silverado and the air bag system functioned properly during this collision;





GENERAL MOTORS NORTH AMERICA
Safety Integration

3. The issues that led to GM's Voluntary Product Recall Campaign No. 02029 were not a factor in the performance of the air bag system in the subject collision; and
4. The fact that the air bags did not deploy was not due to any defect in the air bag system.

The paragraphs that follow provide explanation and discussion to support these opinions.

The air bag system functioned properly during this collision.

The SDM in the subject vehicle can record data specific to one deployment level event and one non-deployment event, or two deployment level events. If the SDM detects a deployment level crash it sets a code for deployment commanded and creates a permanent "deployment event" record. This record is written to non-volatile memory, and therefore the deployment event is not erased from the SDM's memory, and the SDM will not overwrite the data. A non-deployment event is severe enough to "wake up" the sensing algorithm in the SDM but not severe enough to deploy the air bags. A non-deployment event is cleared from the SDM memory after sufficient ignition cycles. The SDM data is but one of the factors considered in assessing vehicle performance. Investigators for NHTSA, Transport Canada, law enforcement agencies, auto manufacturers, and other investigators have utilized data from SDM event data recorders in their field investigations and studies.

The SDM data was downloaded by Gary Burr during his inspection on February 5, 2004. The SDM that was downloaded was the original SDM that was installed in the subject 2000 Chevrolet Silverado. The SDM data did not contain a deployment event file. This indicates that any impacts experienced by the subject vehicle were below the threshold for an air bag deployment in a 2000 Chevrolet Silverado. Thus, the longitudinal inputs in the impacts with the median crossover and subsequent landing were below the air bag deployment threshold for the 2000 Chevrolet Silverado and the air bag system functioned properly during this collision.





GENERAL MOTORS NORTH AMERICA
Safety Integration

Dr. Doug Allsop of AREA Inc. has done a reconstruction of the subject collision sequence. Dr. Allsop indicated that the longitudinal delta-v for the Silverado's impacts with the median crossover and the subsequent landing in the median resulted in longitudinal velocity changes that were below 10 mph for each impact. This appears to be consistent with the physical damage to the vehicle which I inspected on March 22, 2006. Thus, the calculated longitudinal delta-v places the severity of the collisions below the impact speed of the full frontal rigid barrier "all-deploy" threshold for the 2000 Chevrolet Silverado.

In addition the median crossover and the median itself that were struck in the collisions were able to deform. This would help lengthen the crash pulse in each of the subject collisions when compared to a full frontal rigid barrier impact. The longer crash pulses would have affected the longitudinal forces experienced by the air bag sensing system and any occupants of the vehicle. In addition, based on the description of the impacts and the physical damage to the vehicle, a substantial amount of the collision forces were in the vertical direction. The air bag system is designed to respond to the longitudinal inputs during an event. Accordingly, the air bag system functioned properly during the subject collision sequence. The fact that the air bags did not deploy was not due to any defect in the air bag system.

The issues that led to GM Product Recall Campaign No. 02029 were not a factor in the performance of the air bag system in the subject accident.

General Motors Product Recall Campaign No. 02029 addressed a condition where deployment of the air bags was commanded by the SDM, but the airbag deployment command may not be fully executed. The data downloaded from the subject vehicle's SDM did not contain a deployment file or a code for commanded air bag deployment (DTC 51). A DTC 51 may not be cleared and a deployment event file can not be cleared or overwritten therefore, one was never recorded by the SDM. Since no air bag deployment was commanded by the air bag sensing system in the subject vehicle, the conditions





GENERAL MOTORS NORTH AMERICA
Safety Integration

under which the voluntarily recalled vehicles might not deploy the air bags did not occur in the subject collision.

The fact that the air bags did not deploy was not due to any defect in the air bag system.

The information available indicates that the supplemental restraint system was functioning properly before, during, and after the collision; notwithstanding the potential recall condition. This information indicates that the system was capable of diagnosing potential malfunctions. It also indicates that there was no degradation in the ability of the system to warn the driver if such a condition existed.

Should more information become available I will supplement my report if necessary.

VIII. TRIAL EXHIBITS

If I testify at trial, I may use the following material:

1. All of the listed materials reviewed for this report,
2. Occupant Restraints Considerations Evaluation Book (Blue Book),
3. Representative visor warning labels concerning airbags,
4. Technical articles concerning crashworthiness and air bags,
5. Engineering drawings for the components in the air bag sensing system,
6. Documents and material produced by GM and other parties during discovery,
7. Exemplar components,
8. Exhibits generated from the information in any of these documents.

I may have additional exhibits to list, as more information becomes available.

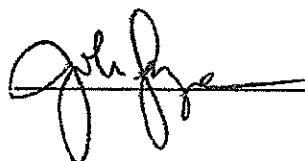




GENERAL MOTORS NORTH AMERICA
Safety Integration

IX. COMPENSATION

I am currently a salaried employee of GM. As a GM employee I do not receive additional compensation for analyzing materials and information in this case or providing testimony.



John Sprague



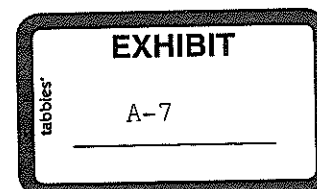
Pg 63 of 64

2000 SILVERADO LT 1500 PICKUP
 14U MED CHARCOAL GRAY METAL /V8G
 922 MEDIUM GRAY INTERIOR TRIM
 ORDER NO. BSDR78/TRE STOCK NO.
 VIN 1GC EK19 T1 YE143024
 CHEVROLET MOTOR DIVISION
 GENERAL MOTORS CORPORATION
 100 RENAISSANCE CENTER
 DETROIT MI 48243-1001
 VEHICLE INVOICE 10D44910049

*****13*10177S
 MODEL & FACTORY OPTIONS MSRP INV AMT RETAIL - STOCK
 CK15753 SILVERADO LT 1500 PICKUP 31320.00 27405.00 INVOICE 08/23/99
 C7H 6,400 LB GVW RATING N/C N/C SHIPPED 08/21/99
 FE9 FEDERAL/NORTHEAST EMISSIONS 0.00 0.00 EXP I/T 08/29/99
 GT4 REAR AXLE - 3.73 RATIO N/C N/C INT COM 08/30/99
 G80 LOCKING DIFFERENTIAL-REAR AXLE 285.00 245.10 PRC EFF 08/21/99
 LM7 VORTEC 5300 V8 SFI GAS ENGINE N/C N/C KEYS NW97 NW97
 M30 4-SPD AUTOMATIC TRANSMISSION N/C N/C WFP-S QTR OPT-1
 WITH TOW HAUL MODE BANK: DEBIS FINAN
 NP8 AUTOTRAC ACTIVE TRANSFER CASE N/C N/C CHG-TO 10-177
 QGD P265/75R16-114S ALT WOL TIRES 365.00 313.90
 Z71 OFF-ROAD SUSPENSION PKG INCLS: 395.00 339.70 SHIP WT: 4719
 * SKID PLATES HP: 44.8
 * HIGH CAPACITY AIR CLEANER GVW: 6400
 Z82 TRAILERING SPECIAL EQUIPMENT 285.00 245.10 GVWF: 3925
 INCLUDES: GVWR: 3750
 * TRAILER HITCH PLATFORM GMS: 28209.30
 * 8-WIRE TRAILER HARNESS NTR: 1/2
 * TRANSMISSION OIL COOLER DAN: CLR
 1SC LT DECOR INCLUDES: N/C N/C MEMO 1632.50
 * AIR CONDITIONING WITH AIR
 FILTRATION SYSTEM
 * ISRV MIRROR W/COMPASS & TEMP
 * DUAL PWR HEATED OSRV MIRRORS
 * REAR WINDOW DEFOGGER
 * DEEP TINT GLASS
 * FRONT FOG LAMPS
 * AM/FM STEREO W/CASSETTE & CD
 * CHROME GRILLE
 * ELECTRONIC SPEED CONTROL
 * POWER LOCKS & WINDOWS
 * REMOTE KEYLESS ENTRY WITH
 CONTENT THEFT ALARM
 * LEATHER WRAPPED STEERING WHL
 * CAST ALUMINUM WHEELS
 * BODYSIDE MOLDINGS
 * 6-WAY POWER HEATED BUCKET
 SEATS W/FRNT LEATHER SEATING
 SURFACES & DRIVER MEMORY

** CONTINUED ON PAGE 2 **

MEDVED CHEVROLET, INC.



Pg 64 of 64

2000 SILVERADO LT 1500 PICKUP
14U MED CHARCOAL GRAY METAL /V8G
922 MEDIUM GRAY INTERIOR TRIM
ORDER NO. BSDR78/TRE STOCK NO.
VIN 1GC EK19 T1 YE143024
*****13*10177S
MODEL & FACTORY OPTIONS MSRP INV AMT RETAIL - STOCK
** CONTINUED FROM PAGE 1 **

CHEVROLET MOTOR DIVISION
GENERAL MOTORS CORPORATION
100 RENAISSANCE CENTER
DETROIT MI 48243-1001
VEHICLE INVOICE 10D44910049
*****13*10177S

TOTAL MODEL & OPTIONS	32650.00	28548.80	ACT 237	28209.30
DESTINATION CHARGE	640.00	640.00	H/B 261	979.50
DEALER CO-OP ADVERTISING		326.50	ADV 261	326.50
TOTAL	33290.00	29515.30	PAY 310	29515.30

MEMO: TOTAL LESS HOLDBACK AND
APPROX WHOLESALE FINANCE CREDIT 28066.00

INVOICE DOES NOT REFLECT DEALER'S ULTIMATE COST BECAUSE OF MANUFACTURER
REBATES, ALLOWANCES, INCENTIVES, HOLDBACK, FINANCE CREDIT AND RETURN TO
DEALER OF ADVERTISING MONIES, ALL OF WHICH MAY APPLY TO VEHICLE.

MEDVED CHEVROLET, INC.